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THE MONTESSORI MUSIC CURRICULUM FOR CHILDREN UP TO SIX YEARS OF AGE

Case Western Reserve University PH.D. 1981

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THE MONTESSORI MUSIC CURRICULUM FOR CHILDREN UP TO SIX YEARS OF AGE

by

JEAN KAREN MILLER

Submitted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy

Dissertation advisor: Malcolm Tait, Ed.D.

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January 7, 1981

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THE MONTESSORI MUSIC CURRICULUM
FOR CHILDREN UP TO SIX YEARS OF AGE

Abstract

by

Jean Karen Miller

The purpose of this dissertation was to review the existing literature, summarize the historical development of Montessori music, describe Montessori music as it exists today and suggest a procedure for further development.

Original source material was provided by the Montessori family and the Association Montessori Internationale (AMI), the organization begun by Dr. Maria Montessori in 1929 to disseminate information, run training courses, carry on the Montessori experiment and to preserve and protect the integrity of the method. The author is a trained musician and has received Montessori training for ages two and one-half through twelve from AMI. This included musical training from a student of Anna Maria Maccheroni, the person who initially developed the music program in collaboration with Dr. Montessori. The author also has considerable experience working with children from ages two and one-half through twelve in authenti Montessori settings.

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Montessori music, as it exists today, was described as a well-rounded program comprised of a number of areas. The sensorial study of musical tone and its properties included the study of pitch, rhythm, tone quality and intensity. These aspects were developed through the use of the Montessori bell material, movement and listening activities, singing and the playing of musical instruments. These parallel activities lead to the children's own expression (extemporaneous playing, playing by ear and/or composition) and then to the reading of music. The usual Montessori sensorial sequence was followed: experience first, followed by verbal naming of the experience and then the addition of graphic symbols. In this manner, musical experience is reduced to graphic symbols only after the musical feeling and expression has become a conscious reality for the children. Theoretical and written aspects of music theory were added as necessary to aid the children in the use of music as a tool for their own self-expression. The study of music literature, history and musical instruments began with and followed the movement and listening experiences.

The dissertation described a unique contribution of Montessori music which is the concept of music as an integral part of an integrated curriculum in the on-going life of a class rather than as a subject that is separated

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both from other subjects and the non-academic parts of children's lives through the use of special teachers, designated times and separate rooms for music. Another contribution of Montessori which was described is the concept of developmental materials and exercises whose purpose is to aid children in the development of themselves rather than teaching devices whose purpose is to teach particular intellectual skills and concepts. In Montessori, intellectual skills and concepts occur as a consequence of the children's development of themselves.

In the concluding chapters, the music curriculum was reviewed both from the perspective of the entire Montessori setting and from the point of view of how it assists children to assume the attitude of composers. Ideal teacher training for people wishing to implement the method was described and the question of the optimum amount of material for the study of musical notation was discussed along with suggestions on how to improve upon the music curriculum.

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Dedicated to the memory of

Anna Maria Maccheroni

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ACKNOWLEDGEMENTS

The members of the Association Montessori Internationale (AMI) have been most generous in their support of this dissertation. First and foremost has been the encouragement and help of Mario and Ada Montessori who made sure that all existing source material was made available. They readily and cheerfully answered the author's questions and saw to it that the staff at their headquarters in Amsterdam sent any material that was needed. Famida Malik made special efforts to find and send lectures and articles on music from the private files of the Montessori family and AMI. Translation of an important reference from Danish into English was done by Florence and Peter Kromann.

The following people submitted to interviews which were very helpful to the author: Vittoria Fresco-Galeazzi and Miss Guidi (translated by Marsilia Palocci), Camillo Grazzini, Mario M. Montessori, Rita Schaefer, Emma Plank, Elise Braun Barnett and the late Albert M. Joosten.

Lecturers on Montessori music who have been helpful include Vittoria Fresco-Galeazzi, Elizabeth G. Hall, Martha Braedon Jones and Sanford Jones.

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Special support has come from Karin Salzmann and Renilda Montessori.

Most important has been the children whom the author has observed and with whom the author has worked in Montessori centers over the last sixteen years.

The photographs in figures 4, 10, 12, 13, 14, 15, 17, 18 and 19 are courtesy of Joan W. Rosenfeld at the Montessori Neighborhood School in Cleveland Heights, Ohio. The photographs in figures 11, 37, 38, 39, 40 and 41 are courtesy of Niranjana Thakkar Bashyal at the Montessori Center of St. Paul, in St. Paul, Minnesota.

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INTRODUCTION

The purpose of this dissertation is to describe the Montessori music program as it now exists in order that the information may be available to people who would not otherwise have access to it. Up to now, only a small portion of the Montessori music curriculum has been available in writing. More of it is given in the oral tradition in training courses run by the Association Montessori Internationale, the organization begun by Dr. Maria Montessori in 1929 to disseminate information; run training courses, carry on the Montessori experiment and to preserve and protect the integrity of the method. Unfortunately, the amount of time available for music presentation in most training courses is inadequate. Generally only people with music backgrounds are able to use the information to implement a music program in their classrooms. This dissertation is designed to help Montessorians already in the field, Montessori teachers in training, musicians who are interested in Montessori music, nursery school teachers and traditional educators.

SOURCES OF INFORMATION

The information for this dissertation has come

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from a number of sources: published books, articles in periodicals, lectures and workshops the author has attended, training courses, interviews, unpublished booklets of Anna Maria Maccheroni, transcriptions of music lectures from the private files of the Montessori family and the Association Montessori Internationale, and the author's experience with children in Montessori classes.

The author was a trained musician before entering the Montessori movement in 1964. The author has received Montessori training for ages two and one-half to twelve and has had experience working with children from ages two and one-half to twelve in Montessori classes.

LIMITATIONS

The dissertation is limited to Montessori music for children up to six years of age. The work with children on which the evolution of Montessori music is based has been mainly in Western cultures.

ORGANIZATION AND CONTENTS

The dissertation is divided into four sections:

I. Historical Development of Montessori Music (Chapter I)

II. Suggestions for Music in the Home (Chapter II)

III. The Montessori Music Curriculum for two and one-half to six year olds (Chapters III - X)

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IV. The Montessori Music Curriculum in Perspective (Chapter XI)

A conclusion follows in Chapter XII.

Chapter I gives the historical background that has led up to the present music curriculum. Biographical information is given on Anna Maria Maccheroni, the musician who collaborated with Dr. Montessori in the experimentation that began the music program. Information is also given on five musicians who were comtemporaries of Maccheroni and four musicians presently working in the United States who are carrying on the development of the Montessori music program.

Chapter II makes an analogy between music and spoken language development and gives some brief suggestions for music in the home.

Chapter III emphasizes singing as an on-going part of the life of the class in both formal lessons and informal situations. The purpose of building a repetoire of simple melodies and the interrelationship of singing with other parts of the curriculum is explained. Criteria for choosing songs and steps in teaching songs are given along with suggestions for vocal exercises.

Chapter IV discusses the contributions of a Montessori environment and program to the development of listening, gives specific aids to listening and details a

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number of games which help children focus attention on their sense of hearing. It then goes on to describe the study of musical instruments, music history and appreciation and children's concerts.

Chapter V describes the materials, exercises and games for musical ear training with the bells. The chapter begins with a description of the bells and related materials followed by an example of a typical student-in-training write up of the first exercise with the bells. Other descriptions include random and extemporaneous playing, matching identical pitches, establishing which way is "up" and grading the C major scale. The sensorial activities described in this chapter lay the foundation on which the written aspects of music are built in the next chapter.

Chapter VI describes the procedures for giving names to the notes, introducing whole steps and half steps and pitch notation along with exercises for gaining facility in reading music, clef signs, notating one's own composition, pitch dictation, playing songs, studying intervals and transposition of simple songs.

Chapter VII deals with whole body movement. It begins by describing the aid that a Montessori environment, materials and exercises give to children's development of muscle control followed by specific exercises for body control. The "line" that is on the floor of the room is

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described along with the exercises of walking, marching, running, skipping, etc., which lead to the children's first introduction of rhythmic notation.

Chapter VIII explains another approach to rhythm through the use of clapping. Exercises for movement on the line, in which the children put one step on every note, are followed by a study of the way measures may be constructed using different note values. Finally, charts are described for studying accents and rests in 2/4, 3/4 and 4/4 time.

Chapter IX discusses the playing of musical instruments and describes the introduction of percussion band instruments followed by games and exercises for those instruments.

Chapter X describes a variety of games and exercises which help children to become conscious of various aspects of music such as accents, dynamics, tempo, time signatures and musical form. Other exercises provide for interpretive movement and dramatizations and still others lead to conducting.

Chapter XI puts the music curriculum in perspective by reviewing the preparation a Montessori environment, materials and exercises provide which lay the base on which musical development may occur. Three charts are referred to which show the different aspects of the music

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curriculum and how they relate to each other. The way in which a child is helped to assume the attitude of composer is reviewed. The importance of music being the responsibility of an adult who is with the children the whole time the children are in class is emphasized as well as the necessity of the adult knowing the whole curriculum so that he or she may respond to any given child by offering an aspect of music that is appropriate for that child at any given moment.

Chapter twelve restates the purpose of the dissertation and its limitations, describes the best known way to train Montessori teachers, lists the people and situations that could be helped by this dissertation and suggests a way to further develop the Montessori music program.

THE MONTESSORI METHOD

Maria Montessori was born in Italy in 1870. Against great odds, she became, in 1896, the first woman in Italy to obtain a medical degree. She became interested in "defective" children who, at that time, were kept in asylums for the insane. Because of this interest she studied the works of Itard and Seguin, two Frenchman who were known for their work with "defective" children. She set up a school for these children and some of them

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learned to read and write so well that they were able to successfully take public examinations with normal children. Montessori wondered why the normal children functioned only as well as her slow learners. She felt that the method and materials she had used with them might also be helpful to normal children. In 1907, she had the opportunity to work with normal children when a tenament owner in Rome decided that it would be less expensive to provide supervision for the young children in the buildings, rather than pay for the damages they incurred when their parents left them unsupervised during the day. The materials and methods which enabled the retarded children to learn, enabled the normal children to learn independently.

The children began to exhibit many interesting behaviors in this setting. They could get out their own materials and return them when finished. They could function without an adult. They loved to work and great powers of concentration became obvious.

Using the Rome experience as a base, many people soon duplicated the experiment in Montessori centers in different countries and found the same kind of results. As time went on, the necessary ingredients for Montessori to happen became quite clear. They are listed in Appendix V in the Guidelines for Schools by the Washington Montessori Teachers' Association. A description of the

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Montessori class as it is understood today is in Appendix II.

REVIEW OF THE LITERATURE

In collecting information for this dissertation, it became apparent that very little has been published about Montessori music. With one exception, Dr. Montessori's books give very little information about music. The exception is The Montessori Elementary Material. This book gives information on sensorial ear training, reading and writing music, the major scales, the monochord, exercises in rhythm, singing and children's concerts as they had been developed up to the year 1917. Outside of Dr. Montessori's books and nine booklets of Anna Maria Maccheroni's, which are no longer in print, only two books have any real information on what to do with some of the Montessori music materials. The first one is Music Theory with the Bells in a Montessori Environment by Jean K. Miller, published by the Montessori Development Foundation in 1970. It briefly mentions a number of areas of music work in Montessori in the introduction and then gives detailed and precise information on the presentations with the bells. Subsequent work with children and access to a better set of information has shown that some of the information in the book is incorrect. The second book is

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The Montessori Manual of Cultural Subjects by Marjorie B. Kocher, published in 1973 by T.S. Denison & Company, Inc. The information given is sketchy and not always correct.

A third book contains an excellent selection of piano pieces for movement exercises collected by Elise Braun Barnett. The book, Music for Active Children, was published in 1957 by Stephen Daye Press, New York.

Only nine magazine and journal articles have been found which deal with Montessori music. The first article, "Rhythm Work in the Children's House at Washington", by Anne E. George, appeared in May 1913, in McClure's Magazine. The article contains a general description of children singing as they worked and spontaneous use of one of the "rhythmic paces" of a favorite play song.

Twelve years passed before the next article appeared, this one by Dr. Montessori in The Call of Education (Vol. II, No. II, July 1925 - The Psycho-Pedagogical Journal - International Organ of the Montessori movement, published in Amsterdam). The title of the article is "Analysis". It describes how music is analyzed into its parts and then the various parts ordered according to difficulty. The two main subdivisions are sensorial and motor. The different parts are studied in isolation and when the children are ready, they make their own synthesis of the information.

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Forty years passed before the publication of the next article which mentions Montessori music. The article, entitled "Children and Music", appeared in The Instrumentalist (Vol. XX, No. 3, October 1965). The article is in four sections, each written by a different person. Marion S. Egbert presents a case for the music readiness programs of the elementary school and their importance in preparing students for elective music programs in the secondary schools. Grace C. Nash describes Orff music, Elsa Findlay describes Dalcroze and Jeanne Bamberger describes Montessori music. It is interesting to note that Nash is described as a leading Orff specialist with extensive training in Orff methods; Findley studied with Dalcroze himself and, at the time of the article was head of the Dalcroze Eurythmics Department at the Cleveland Institute of Music, while Bamberger, an assistant professor of music at the University of Chicago and an accomplished musician herself, had only three months acquaintance with Montessori music while working with four and five year olds in a Montessori class. Her information on Montessori music came from The Montessori Elementary Material, Dr. Montessori's Own Handbook and a Dutch teacher at the Montessori school. She confined her description of Montessori music mainly to ear training and pitch notation materials. Some of the information is correct but there is also a great deal of

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mis-information in the article. She missed some of what was in Dr. Montessori's books. Perhaps she was misinformed by a teacher who was trained in the Netherlands, where the Montessori training courses had left the mainstream of the Montessori movement and gone in their own direction.

The next year an article appeared entitled "Montessori and Music" by Sister M. Vernon, O.S.F. in Musart (Vol. XLVI, No. 1, September 1966). Difficulty in getting historically correct information about the meeting of Dr. Montessori and Anna Maria Maccheroni led Vernon to state that they met in 1914 and the music program rapidly developed from 1914 to 1917. [They actually met in 1907 and Maccheroni began her work on the music in 1908.] Using Dr. Montessori's Own Handbook and The Advanced Montessori Material as her sources of information, she describes sensorial development, the reading of music, rhythmic exercises, singing and listening experiences. She then reflects on why Montessori music had not attracted the attention of music educators:

1. Difficulty in obtaining Montessori books. [True in 1966. Today more is available, but Dr. Montessori's books are mainly collections of her lectures. Nothing is available that deals with the whole of Montessori's theory.]
2. The books that were available dealt mainly with children from ages two to five, an age largely ignored by the American School system.

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3. The type of prepared environment described by Dr. Montessori where children could discover themselves could not be readily "supplied to large numbers of children. The ultra-democratic American educational system would not provide for a few what it could not provide for all". [Fourteen years after the publication of this article, many American public schools have Montessori type classes and some judges are designating Montessori magnet schools as vehicles for desegregation.]
4. "The creative, exploratory approach is inherently difficult to record or outline in a curriculum form. Perhaps the handy-manual type of teacher guide has diminished enthusaism in teachers for more challenging situations." [While many exceptions are found, Montessorians and traditional teachers tend to be two very different personality types, neither of which would feel very comfortable with each other's teaching style.]
5. "The combination of trained musician and trained Montessorian is rare. Written materials will have to be provided by persons with this combination before any ideas will readily 'catch on', be adapted and become known." [This statement is an excellent justification for this dissertation.]

In the winter 1966-67 edition of The Piano Quarterly an article appeared by Elise Braun Barnett, a trained Montessorian and musician who made a contribution to the development of Montessori music in the 1920's, 30's and 40's when she was active in the Montessori movement. Braun published the collection of piano pieces called Music For Active Children mentioned before. In this article entitled "The Montessori Approach to Music", she describes some interesting supplementary materials which she had devised for the piano. She also describes some materials for the study of rhythm which are similar to materials described by Maccheroni.

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The next article in chronological sequence is by Martha and Sanford Jones. It appears in The N.A.M.T.A. Quarterly (Vol. III, No. 2 - Journal of the North American Montessori Teachers Association), and is entitled "Music Education from Birth to Twelve". This artilce shows an excellent grasp of Montessori theory and extensive experience with children together with Montessori music. While good information is given in an overview of music for ages three to twelve, an especially important contribution of this article is the information it offers on music in the home. This article was reprinted in Montessori Talks to Parents (Series II, Vol. 3, © 1980 by the North American Montessori Teachers Association), and is extensively quoted in this dissertation.

The same year another article appeared in The N.A.M.T.A. Quarterly (Vol III, No. 3, Spring 1978), by Elise Braun Barnett. This article is called "The Montessori Approach to Music", as was her previous article in The Piano Quarterly. She speaks of the parallel between language and music and the necessity of children hearing music in the classroom. She describes a number of Montessori music activities and materials and some of her own supplementary materials. Some of her supplementary materials follow Montessori principles of material development while a few do not.

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In 1979 an article by Jeanne S. Rubin entitled "Some Suzuki and Montessori Parallels" was published in The Constructive Triangle (Vol. VI, No. 3, Summer 1979, the Journal of the American Montessori Society Teachers' Section). Rubin describes points of Suzuki theory and practice and compares them to Montessori. She is obviously not trained in Montessori as she misses some very important points of Montessori theory in these statements.

In May of 1980 the article, "Montessori and Music In Early Childhood" by Jo Faulmann (chair of music education at Illinois State University, Normal), was published in Music Educators Journal (Vol. 66, No. 9, the official magazine of the Music Educators National Conference). Although this article is similar to the 1966 article by Sister M. Vernon, O.S.F. in Musart, Faulmann had access to more information about Montessori. She mentions the collaboration of both Maccheroni and Barnett and is aware of the book of pieces published by Barnett for listening and movement exercises. Her description of the Montessori music materials and activities are taken primarily from The Montessori Elementary Material. One reference is from Dr. Montessori's Own Handbook. The article has a number of inaccuracies, omissions and incorrect assumptions about Montessori. As is the case with Rubin, Faulmann's knowledge of Montessori and Montessori music is obviously

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limited.

One doctoral dissertation has been written related to Montessori music. The title is An Experimental Music Program Based on Montessori Principles and it was written by Sister Therese J. Fitzmaurice, S.N.D., Boston University Graduate School, 1971. The author's source of information about Montessori music appears to be limited to that found in Montessori's books. The music program designed by Fitzmaurice ignores the Montessori bell material and does not utilize Montessori principles for music presentation in the execution of other parts of the program. The study was conducted in two Montessori classrooms, one being the test group, the other the control. The comments of the two teachers involved plus a listing of the music activities they used during the year in which their classes were in existance before the study began reveals the inadequacy of the Montessori training they received. The bulk of the music presentations listed and described in the dissertation were teacher centered teaching experiences. Fitzmaurice did come to realize over the course of the study that there needed to be activities for individuals. She said, "Not until the young child was 'discovered' by the author could music experiences be planned to realize his full potential for music learning. Hence, it was not until the last two months of the experiment

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that activities for the work of the individual child were designed." (p. 185.) This study reveals the difficulty that non-Montessorians and inadequately trained Montessorians have in implementing a Montessori program.

Since there is no restriction in the United States as to the use of the name Montessori, the existance of quasi-Montessori classes abounds. This is confusing to other educators and the general public. Since a good set of information on Montessori music has been available only to people who have taken training courses run by the Association Montessori Internationale (the mainstream of the Montessori movement), others interested have, up to now, had to rely mainly on books published in 1917 and before, as evidenced by the Faulmann article published in May, 1980.

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CHAPTER I

HISTORICAL, CONTEXTUAL PERSPECTIVE OF MUSIC WITHIN THE MONTESSORI MOVEMENT

The music that is a part of current day Montessori practice began with the collaboration of Dr. Maria Montessori and Anna Maria Maccheroni in the early part of this century. Dr. Montessori contributed her knowledge of child development while Maccheroni contributed her musical knowledge. Both learned quickly from each other. "Being a pianist of some ability, it was Maccheroni's collaboration that enabled the musical side of Dr. Montessori's work to become established on the same experimental basis as all the rest."[1] Unfortunately, there were few musicians involved in the movement who were capable of implementing Maccheroni's work and almost all Montessori training courses in the past as well as now are too short to provide adults with the kind of instruction and supervised practice that would enable them to include music as fully in the classroom as it is in the theory. The musicians who were able to implement Maccheroni's work included Elise Herbatschek Braun Barnett, Lawrence Benjamin, Señor Gibert and Signorina Pini. In 1951, Vittoria Fresco-Galeazzi, a young music student, met Maccheroni and joined

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the ranks of the few musicians mentioned above who carried on the musical aspects of the Montessori movement. In the early sixty's, when the Montessori movement was enjoying a second wave of popularity in the United States, four musician's entered the movement. These four have continued the development and dissemination of Maccheroni's music through their own classroom experiences and through workshops for practicing Montessorians and lectures at Montessori training centers affiliated with the Association Montessori Internationale. A brief history of Anna Maria Maccheroni and her collaboration with Dr. Montessori, the five musicians who worked with Maccheroni during her lifetime, the four Americans and the present status of Montessori music in North America follows.

Anna Maria Maccheroni was born in 1876, in Italy. Maccheroni herself said that her family life had not been happy, "because my parents, both good, had not been able to get on with one another."[2] However, her reminiscences in later life to Vittoria Fresco-Galeazzi had a different flavor:

> A person who is endowed with a multiform character, a genial disposition and who is rich of personal initiative, has generally had a childhood full of positive experiences. So it was in her case. Her tales abounded with indications that revealed an affectionate and non-coercive protection on the part of her parents. She related that as a child she was obstinate. As she refused to eat, her parents put among her toys a saucer full of little balls of bread and

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> of meat. As many children do, she put everything in her mouth, so she ate without realizing it. . . . She held admiring memories of her fascinating brother. He was an electrical engineer and they loved to be together during vacations. But he was killed in an accident. They were both born (with a sister who died at the age of five) in a country house surrounded by a large park. So as children they could play outdoors, climb trees and keep animals. As her parents were teachers and had opened a school in the house, the two of them loved to participate in the class life and so they absorbed cultural items. During meals at home, the family spoke of psychology, of pedagogy, of different methods with vivacious discussions owing to differing opinions.[3]

Concerning the educational atmosphere of her home, Macheroni said,

> About 1880, or a little later, my father had brought a Froebelian teacher from Switzerland or Germany, and opened a Kindergarten in our home. Later a primary school was added, and we had three or four classrooms. Then he started a Training College for teachers. . . . In such an environment I heard a great deal about schools, methods and ideals.[4]

Her own educational pursuits brought her a teaching degree and another in the French language. She had also studied music.

> How she acquired the passion for music she did not remember, but she remembered her piano teacher who cared for the aesthetics of the musical pieces they played. She had become imbued with the importance of it. This was perhaps why she invited us pupils to play without accentuating the strong notes, so that music could talk to children in its most authentic language.[5]

In spite of her qualifications she refused a secondary teaching position which was offered to her, "because I strongly disapproved of certain features of the current

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educational practice . . . My strong wish was to help children to live, not just to learn . . . "[6] Her father had not opposed her when she refused the teaching position. He even suggested "that I should return to Rome and see if I could find something in harmony with my own ideals."[7] In November 1906, she attended a lecture on Pedagogical Anthropology which Dr. Montessori was giving for teachers at the University of Rome. Maccheroni found what she had been searching for that evening.

> The answer came that evening when I heard Dr. Montessori for the first time, and she spoke about 'the school.' In that first lecture there were two points that she choose to illustrate:
>
> 1. The duty of the school, of the teacher, is to help, not to judge.
> 2. Mental work does not exhaust, it gives nourishment; it is food for our spirit.
>
> . . . It was as if I had been thirsty and had found pure water.[8]

In spite of health problems she continued attending Dr. Montessori's course on Pedagogical Anthropology. She spent the summer holidays at home with her father and then returned to Rome to pursue her studies. Her aunt suggested that she consult Dr. Montessori concerning the direction her studies should take, which she did in November 1907.

> It was a providential meeting for both of them, because their souls were made for reciprocal understanding. Providential especially for Maccheroni who was then in the difficult situation of having to make a lasting choice in the field of education in which the procedure generally adopted, was repugnant to her inner aspirations.[9]

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Dr. Montessori suggested that she work with mentally defective children, so she began working with two microcephalics. She also went to observe Dr. Montessori at work in the first Children's House which had been established in a tenement in the San Lorenzo Quarter of Rome.

> This experience gave reality to what I had seen in my mind in listening to Dr. Montessori's lectures, which answered so exactly to my inner need. I had a calm sense of security, a serene and sure feeling that I was on the very spot I had been looking for.[10]

> For a small group, to which Signorina Maccheroni belonged, . . . the personal contacts with Dr. Montessori became the starting-point of a new life, a new dash, we may say a new mission. Nobody, not even Dr. Montessori herself, knew where it would lead to, but of one thing she and the others were convinced: an important work had started, which nowadays we might call the conquest of freedom for the child to develop according to its inner needs and to his potentialities. The group settled around Dr. Montessori. Urged on by their inner flame, they were eager to study, to collaborate, to assist wherever they were needed. Among these persons, Anna Maccheroni must have been of special value. On reading the books of Dr. Montessori, we see her name repeatedly and her experiments are mentioned with great appreciation. Not only was Miss Maccheroni's creative spirit greatly stimulated by Dr. Montessori's psycho-pedagogical and philosophical thoughts based on observation and study, but she showed her deep understanding of them and her own personal gifts by the way she applied, in the new Casa dei Bambini she started, the fundamental principles to the education of groups of children of different ages; and by the way she approached them, introduced the developmental material, created by Dr. Montessori.[11]

Although her health broke down again in June, 1908, she went to Milan in September, when she opened a Children's House in a tenement for forty-six children, all less that six years old. She lived in the tenement itself

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and had the Children's House open "from 8 a.m. to 6 p.m., so my working day corresponded to that of the workman, my neighbors. It was indeed a long school day. But ours was not a school. It was really a Children's House."[12]

It was in Milan that she began her experiments with music.

> In her ebullient geniality she did not limit herself to apply only what she had observed when Dr. Montessori herself taught the children. When her tiny pupils showed they had acquired a perfect exterior behaviour, when they had perfected their equilibrium and their movements in exercises on a line drawn on the floor of the class, she tried to attract them to rhythmical movement, accompanying them on the piano which she played with delicate expression. The response of the children was fascinating. She communicated the results to Dr. Montessori and following her suggestions, she elaborated during the two years she stayed in Milan (1908-1910) the first series of the musical material and found a manufacturer to produce it.[13]

In the summer of 1909 she went to the villa of Barone and Baronessa Franchetti close to Citta di Castello where Dr. Montessori was giving her first training course. She stayed at the villa with Dr. Montessori. After the summer lectures she returned to the Children's House in the tenement in Milan.

At Easter time the next year she went to visit Dr. Montessori in Rome and stayed along with Signorina Fedeli to help with the two courses that were to be given. Maccheroni was given a class of about fifty children at a Franciscan convent.

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> The new Casa dei Bambini she was called to direct in Rome was to be the observation school for the students of the two courses. Who saw Maccheroni in that unforgettable mystic center of Via Giusti, where she was capably assisted by the Franciscan Sisters, Missionaries of Mary, can testify how much Maccheroni gave of herself. In spite of her illness, which increasingly tormented her, she did not miss a day and she went to her new work as if every day she were going to a new spiritual feast. In her complete dedication to the children and to her task she found the energy which was needed for this exceptional effort.[14]

La Dottoressa, as Dr. Montessori was fondly called,

> . . . was then seeking associates of uncommon dedication, it was not surprising that she soon found herself one of a small group of young woman actually living with Dr. Montessori in the same house. Ballerini, Ollivero, Fedeli and Maccheroni became as daughters, providing the Dottoressa with the help she needed in her unceasing and incredible creative activities.[15]

In later years, Maccheroni loved to tell about her experiences with Dr. Montessori. Miss Hoff, one of the Danish collaborators, relates:

> She told of how she and Dottoressa together with some others, who concurred with their ideas, made a vow in a small chapel to dedicate all they had, as well as all their power and energy, to the fulfilment of the task they had set themselves.[16]

Maccheroni also explained to Miss Hoff that "she had made a vow of personal poverty."[17]

In reminising about Maccheroni, Rosy Joosten-Chotzen recalled that:

> Dr. Montessori could count on her as on a Montessorian who could create and cultivate the conditions which opened the door to promising and surprising phenomena. So it was quite natural that she should be active and creative in different countries and under varying

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> conditions. Wherever she worked it was the same for her, because everywhere she found children with the same needs, the same possibilities, the same capacity for normalisation [sic] . . . When and wherever Dr. Montessori called, as long as her physical energies permitted, Signorina Maccheroni went.[18]
>
> In 1911 she had to yield to her illness. Donna Maria Maraini Guerrieri Gonzaga, the faithful friend of Dr. Montessori persuaded her to accept being assisted - which she did financially and otherwise - during and after a serious surgical intervention.[19]

Miss Traversa-Olivero goes on to say,

> As the world interest in Montessori grew, different political and religious currents were formed. Each wanted the exclusivity of the method and each belittled the other. They seemed great difficulties at the time, but much greater troubles were in the offing: the first World War was approaching. And even before, because of it, Dr. Montessori had had to abandon Italy. Maccheroni, again the forerunner, had left for Barcelona (Spain) to prepare the ground for an international course which would be given by Dr. Montessori on her return from her first American Course in San Francisco (California), held at the Panama Canal Exposition.[20]

So it was that the faithful Maccheroni went to Spain to set up a Children's House that would serve as an observation site for a course Montessori was preparing to give at the invitation of Senorita Villuendas and Senora Pujol of Barcelona.[21]

In 1916 Dr. Montessori went to Spain accompanied by Adelia Pyle who wrote about Maccheroni meeting them at the train,

> There was Maccheroni, the same dear old Maccheroni, her figure a little more bent, her hair a little more untidy, but she was just as full as ever of

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> that wonderful experimental enthusiasm and overflowing comradeship for the child.[22]

In writing about her experiences in Barcelona, Maccheroni said, "I want to mention our music teacher, Señor Gibert. He was teaching Dalcroze and agreed to come to us too. I wanted someone who knew about aestetic movements and deportment."[23] This is the one and only mention of contact with an established method of teaching music by Maccheroni or anyone else in the Montessori movement. No one who knew her who was interviewed for this dissertation could say whether or not she knew about Dalcroze before this time; however, the rhythmical movement exercises which Lina Traversa-Olivero said Maccheroni experimented with in Milan (1908-1910) bore close resemblance to Dalcroze eurythmics. Olivero was, along with Maccheroni, one of the four women who became as daughters to Dr. Montessori. There is, however, a contradictory statement concerning when and where Maccheroni actually began her music and movement work with children. Her student, Vittoria Fresco-Galeazzi, places this development in Barcelona.

> Of all her experiences with children, she said, the periods spent in Barcelona was the best. There with her collaborator Prof. Gibert, she made the initial observations on movement related to music and established the exercises on the 'line' with music which inspired motor reactions as well as bringing to the children appreciation of the value of notes by means of rhythmical movement games. Side by side the bells

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> enabled the younger ones in the Casa dei Bambini to enjoy isolated sounds and the older to compare them, to pair and to put them in gradation, in repeated and concentrated activity. Thus gradually the voice and the other items were educated until the children at six were able even to read notes and use them to write small pieces.[24]

Fresco also said,

> Her collaboration with Dr. Montessori started in 1910. It was to continue for the rest of their life. She told me all this and of her previous family life, in the long hours we spent together working and talking.[25]

This discrepancy in dates and places was perhaps explained by Mario Montessori who recalled that Maccheroni, in later life, was not good at remembering dates, places and events correctly.[26] Maccheroni mentions her own forgetfulness in her book, A True Romance. "One of those days I found myself walking in a street and unable to remember the address of my hotel. Happily Miss Cromwell was still in Paris. . . . I could phone to her and save myself from some trouble."[27]

Maccheroni's health had broken down again in 1918, and she found it necessary to have a six month rest.[28]

After the end of the first World War, Maccheroni was sent ahead to London to prepare for another training course. After the course in 1919, she was asked to stay on and serve as a consultant for the Montessori classes.[29] Thus began a new era in her life. Rosy Joosten-Chotzen described Maccheroni's consultation activities in The Netherlands:

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> Signorina Maccheroni's activites were a stimulating help, a pushing power, not only for our school, but also for all the other Montessori schools (private, confessional or municipal), the staff of which met regularly. Signorina Maccheroni's culture was many-sided, but she was in the first place the living example of a Montessori directress and of the attitude a Montessori directress should have. During the school hours, we might scarcely notice the door that opened without any sound and that Signorina Maccheroni had come in and was sitting in a corner. There she sat, sensitive to the atmosphere in the class and at the same time observant of the behaviour and the work of the individual, or of groups of boys and girls with 3 years age difference. She was intense in observing, in encouraging, in giving help when a child consulted her or when she introduced a new technique to a little group which had come around her. No interruptions in the work of a child; whatever struck her was kept in store. She would mention it later on in our discussions. . . . We ourselves got into the habit of visiting her at the end of the school-day. "How was the class?", was her first question. We were very critical of ourselves, we certainly had not yet reached the standard to judge correctly. Often our answers were: voices much too loud - activity too low. On analyzing the facts, she always brought to the fore the positive ones and encouraged us. "Coraggio!" was the ever repeated motto, we really owe to her our acquisition of psychological insight, confidence in the children and respect for their needs.[30]

Maccheroni also helped to spread her knowledge by lecturing. Her generosity in giving of herself in this manner is again described by Rosy Joosten-Chotzen:

> . . . we always found her ready to give a series of talks and demonstrations to groups of Montessori teachers or to persons who wished to ask her advice. She seemed to have an in-born tendency to give evidence of the beauty and spirituality of Montessori education, to tell of her experiences with children in so many different lands, who were nonetheless the same in their needs, their potentialities, their need of giving and receiving understanding love, of her faith in and devotion to Dr. Montessori. And she did

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> it in such a lively way that I remember my being so fascinated that often I forgot to translate.[31]

When she was too ill to go out and lecture she still gave generously of herself to all who came to her. Claude A. Claremont described this:

> Though ill-health confined her much to her room at the Kensington Convent of the Assumption, she remained for years a kind of oracle whom all Montessorians with classroom problems could visit beneficially, since every visit turned into a unique lecture specially aimed at the audience of one.[32]

When she was not present she engaged in long correspondence with people who were trying to impliment Dr. Montessori's ideas. A charming description of her was given by Fanny and Michel Lanternier, a couple in Limoges, who had a class in "a huge, unplastered shed, the inner walls protruding with rough stones. It had been abandoned as too primitive by the machine shop it had been built for."[33] Maccheroni went to live with the Lanterniers for a period of time and to work with them in the shed which had been converted into a Montessori environment.

Part of the English translation of the Lanternier's article reads:

> The afternoons were spent in the school and they still see her among the children, interested in all, not imposing, always ready to understand - to admire - respecting the work of the teachers but at the same time always demanding more perfection and truth. In the evening after school, home again, they loved to sit on the stairs, to talk, reminishing [sic] with all the children around her. Those were the hours the whole family longed for.

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> Then towards ten, when the fatigue of the day began to be felt, Maccheroni would suddenly address Mr. Lanternier and embark upon the work in the long discussions on mathematics, music, religion, education, development of language in children. Her time in Barcelona was an inexhaustible fount of memories and advice. How, the Lanterniers wonder, by such inedaquate [sic] glimpses, can one describe, make alive a spirit so lively and so alert? This flame which transfigured this small body, which was so weak, this enormous energy, which was coupled with child-like reaction and attention to small details. It was she who encouraged Mrs. Lanternier to enter gradually in the work of the school; and later with a long correspondence, she supported their efforts and urged them to continue their work.[34]

It is interesting to note that the original ideas concerning the music materials are sometimes ascribed to Dr. Montessori and sometimes to Maccheroni. Perhaps it is a sign of the depth of their collaboration, mutual supportiveness and personal friendship that each would say an idea had originated with the other. Rosy Joosten-Chotzen writes:

> It all began when in the early times of their collaboration, Miss Maccheroni, who as I said was a keen musician, spoke to Dr. Montessori about the basic elements of music. She mentioned them to her, but with great admiration she told us how Dr. Montessori herself, who was so perspicacious with regard to the psychological laws of the development in Children, outlined the first material: the musical bells and the material for notation. On the basis of that preparation, Maccheroni in later years was able to continue to introduce the musical charts and develop the children's musical education.[35]

Maccheroni herself wrote about Montessori's inventiveness:

> These tone-bars are one of the cleverest pieces of her apparatus. It was in 1914; she was then at Rappallo. I said to her: "You have arranged the

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> multiplication tables so that one gets all of them on the same board. Do something for the scales." "Tell me about a scale, then." I did so, and she at once planned the board with white and grey strips to mark the intervals, and the sequence of tone-bars on it. I remember she said, "Do not mix them, but just push them along, so that you get any key you want."
>
> I was thrilled, and went to the firm of Tronci at Perugia, the makers of the bells. It is interesting to know that she soon forgot all this. I had to remind her a few years later, and at first she was inclined not to believe me; then she laughed one of her most hearty laughs.[36]

Vittoria Fresco-Galeazzi, Maccheroni's Italian Student wrote:

> Very humbly she said that she had done nothing but apply the Montessori method to music, and that in doing so, she had given special attention to the rhythmic exercises on the 'line' for which she had made a vast collection of pieces taken from symphonies, operas, popular songs, etc. To us pupils, as well as Music Academicians, her most remarkable achievement was perhaps having made the notoriously boring musical theory something which made us exclaim: "I did not realize it was so beautiful. We now understand at last so many points which had remained obscure". Besides her great vivacity of mind and her educational ability, Signorina possessed a third gift. She was very able with her hands. She herself made all the models for the charts and the varied musical material she created in her genial application of the Montessori method. Only the 'transpositor' which enables children of eight years to cope with various scales and their mechanism was Dr. Montessori's direct contribution.[37]

While Dr. Montessori and Maccheroni engaged in discussions about music from which came creative ideas for designing apparatus and activities, those materials and activities which were subsequently passed on to others in the Montessori movement were only those that had

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successfully passed the experimental stage with children. R. Hoff writes,

> She knew her way in Music; she loved to teach it and she invented many aids to help children understand it. What she made was not based on theoretical ideas. It was the result of her many experiments and experiences with children.[38]

In talking about Maccheroni, Vittoria Fresco-Galeazzi also referred to this experimentation. "Maccheroni said that whatever she had done with music was not something that came out of her. It was the result of work with children."[39] According to Albert M. Joosten, Maccheroni wrote a series of thirty-five booklets of musical activities some of which were based on her experimental work with children, while others were theoretical in nature and have yet to be tested by children.[40]

Music was not the only area of the Montessori curriculum in which Maccheroni was creatively active. Camillo Grazzini said that she had designed some of the advanced geometry apparatus. One material in particular that he showed the students in the advanced training course in Bergamo was a cube that came apart in three equal pieces (equal in size and shape) from one corner.[41]

Descriptions of Maccheroni reveal an interesting but unusual personality:

> . . . a small Italian lady with a face that expressed intelligence and love-power, her dark eyes could glitter with warm understanding behind her spectacles. I remember her dressed only in black, with a little black veil on her hair.[42]

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> There was another facet to her character which perhaps no one else witnessed. It was her sense of humour. She used it to make Dr. Montessori laugh, to make her forget the work for a moment and bring her out of the intensity of her thoughts. She thought of all sorts of things. It wasn't that she made a study of it. Sometimes witticisms occurred to her on the spur of the moment. She seemed to have a gift of supplying a touch of humour when it was most needed. It was an expression of love, a form of help that burbled [sic] out of her generous soul.[43]

> . . . the small lively lady . . . who liked to collect a group of students around her, with whom she conversed and at the same time instructed.
>
> It was Anna Maccheroni. Miss Hoff was impressed by the fact that she had the courage to have opinions which differend [sic] from those of others. She could express them very clearly . . . [44]

> . . . she had a fantastic intuition, she was a fantastic observer . . . she seemed to have an absolute detachment to material things, an abandonment in the hands of God, a belief that he would provide. She was always faithful to the method. Sometimes she was sharp to people, but it was not a personal thing, but in order to keep them on the right tract . . . Yes, it was also a temperamental thing, and she was to some extent impulsive. She had wonderful contact with children . . . She was not attractive to look at, but people flocked around her.[45]

> Mother Isabel remembered years later having taken pains to move Anna Maccheroni out of London to the countryside during World War II to keep her from being interned. Maccheroni was by that time an eccentric little old lady, outspokenly anti-English. Maccheroni wrote to the Montessoris that she had been thrown out on the street in the middle of the night and Montessori seems to have accepted her version of the event and become furious with Mother Isabel, who wrote to her, "You know her and you know me. How could you believe her?"[46]

After the second World War, she returned to Rome and in 1951 took part in the last course given by Dr. Montessori.

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> She was seated behind the bells: a small lady dressed in black, her white hair covered by a short black veil. Her penetrating eyes seemed to have kept the innocent gaiety of childhood, she spoke with vivacity of language, which in spite of her 75 years revealed the astounding youth of her spirit. Her lessons, as the course proceeded, never were boring.[47]

> . . . the lavishness of her cheering enthusiasm which is all the more extraordinary when one thinks of Maccheroni's sufferings. Though it was regarded that these were psychosomatic, I often saw Maccheroni cry because of physical pain and she certainly was not weak in character, on the contrary, she had tremendous will power. . . . It must be kept in mind that Maccheroni's suffering never left her. Anyone else's equanimity would have succumbed; anybody in her condition would have become embittered, but not Maccheroni. The freshness of her enthusiasm and her missionary zeal remained unimpaired throughout her life.[48]

Frequent mention is made of ill health by Maccheroni and by almost all who wrote or talked about her. The nature of the illness was never clear. Mrs. Coops-Broese van Broenou wrote:

> . . . Maccheroni was a nervous patient who thought she could not walk. Mrs. Coops decided to have Miss Maccheroni treated by a compatriot (a Dutchman) who lived in Geneva. They settled down in a good boarding house and every day Mrs. Coops took Miss Maccheroni in a rented invalid carriage for the massage which was part of the cure, until the moment came when Dr. Maria Montessori was due to start another training course in London. Miss Maccheroni was not well enough to go and assist Dr. Montessori in the course by showing the practical application of the method. Mrs. Coops, who herself intended to follow the course, says how happy and grateful she is still today that her friends and husband enabled her to do this by taking over her duties at home. She says that when she met her she had the impression that Dr. Montessori was disappointed that the treatment given to Miss Maccheroni had no results.

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> Several weeks later, Mrs. Coops continues, I received a postcard from Miss Maccheroni. It came from Lourdes and she wrote she was cured. Alas, this proved not to be true, but she felt that reality had to be faced and that she thought an end had to be made to the cure in Geneva.[49]
>
> She came back to Italy after the second World War an old, invalid woman. But she continued her work with undiminished zest . . .[50]
>
> I think it is important to remember that this extraordinary lady was from early youth affected by an incurable disease, the causes of which remained always obscure. In spite of several surgical interventions, the use of her legs became increasingly difficult. Most of the time she worked seated in bed, but nonetheless her vivacity was unimpaired. Her unstable temper and her picturesque disorder in her room, may perhaps have been a reverse of the coin to Signorina's numerous qualities, but as far as I am concerned, I never ceased to admire the bulk of the work she had been able to accomplish, in spite of her precarious state of health.[51]

A picture of Maccheroni emerges which shows a delightful but somewhat peculiar woman, faithful to Dr. Montessori and dedicated to the vision of the new child and the new education. She was a master teacher and had the ability to draw out what was innate in the children with whom she worked. Her subsequent role as a lecturer and consultant was based on a combination of the knowledge she had gained from Montessori and her own years of experience in working with children. While being intuitive, sensitive to children, talented and tireless in her work, she was also disorderly and forgetful. She was not preoccupied with personal appearance, made a vow of

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poverty and was deeply spiritual. While she was generous and warm with those who were dedicated to the Montessori movement she did not hesitate to disagree and to be sharp with those who strayed from the path. In spite of her physical sufferings she had the charismatic ability to inspire others and to help them achieve clarity in their understanding of Dr. Montessori's ideas. Those who wrote about her in the special issue of Communications dedicated to her and those interviewed for this dissertation spoke of her with great affection.

Vittoria Fresco-Galeazzi, Maccheroni's student in Rome wrote;

> During her last years, Signorina was in the care of the family Sica in Rome. They showed an abnegation which is almost impossible to find in our days. She had spent a year immerged in confused reminiscenses when, on the threshold of her ninetieth anniversary, 'she passed away gently as a small candle which goes out'. So Mrs. Sica told me when I went to visit Signorina on her death-bed. She looked serene, almost beautiful, but I prefer to remember her alive, to remember her serene and inalterable loyalty to her life task in her own words: "I would not even be able to imagine what my life would have been without this work. I was looking for a form of love which would not fall in the circle of family life, of likes and dislikes and of seeking personal interests. I found it and this has been my peace."[52]

The earliest mention of a musician other than Maccheroni in any writings about the Montessori movement is in connection with the demonstration class set up in Barcelona in 1915. The musician was Sinõr Jean Gibert, a

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Dalcroze teacher. Previously mentioned in this chapter are the references to him by Maccheroni in her book, A True Romance and by Vittorio Fresco-Galeazzi in the special issue of Communications dedicated to Maccheroni. Montessori made one reference to him in The Montessori Elementary Material where she speaks of a simple tune composed by him. This reference and tune may be found in Chapter VIII of this dissertation. His name is also found in Booklet 4, Lunghezza Della Note In Brevi Melodie, of the thirty-five booklets by Maccheroni. This booklet contains sixty-five short exercises credited to ". . . a professor Gibert who taught aesthetic movement in the Montessori school in Barcelona . . ."[53] The tune mentioned by Montessori is one of the melodies in this series.

Two more musicians joined the Montessori movement in the early 1920's. The first was Lawrence Benjamin, a wealthy Australian who was a relief worker in Vienna after World War I. He took one of Dr. Montessori's courses in 1921 and then built a Montessori day care center in the slums of Vienna. Lili Roubiczek (later Lili Peller) ran the center. The second musician, Elise Herbatschek (later Elise Braun Barnett), was invited by Miss Roubiczek to play the piano for the children's movement exercises at the school. Mr. Benjamin would watch the daily movement

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exercises from the balcony to see which pieces worked best for the children. Montessori visited the center in 1923 and encouraged them in their endeavor to find more pieces. Gradually a large number of pieces were collected whose worth had been proven by the response of the children. In 1925 Mr. Benjamin gave a music lecture on movement exercises at the London Montessori training course. He spoke of the collection which was at that time still in manuscript form:

> . . . The book is composed of folk songs from many countries and pieces from what are called the classic composers. The folk songs include those from Austria, Belgium, Czechoslovakia, Denmark, England, Finland, France, Germany, Holland, Ireland, Italy, Lithuania, Norway, Poland, Russia, Scotland, Spain, Sweden, Switzerland and the United States of America, and the classic pieces are from Handel, Haydn, Mozart, Beethoven, Schumann, Schubert, and Wagner. The folk songs have been chosen for one reason because the best examples are remarkable both for their rhythm and their melody. I also thought it a beautiful thing to have as an introduction to music a collection of Folk Songs from so many different countries which makes it, as it were a kind of League of Nations in music.
>
> The book, as you already know, is divided up into groups of rhythm, and each division is headed by a stronger piece of paper with an overlapping flap at the top, on both sides of which is written the name of the rhythm. This makes it easy to turn quickly from one rhythm to another, otherwise, of course, it would be impossible to have the short pause between the rhythms that we spoke of before, without learning all the pieces by heart.[54]

Eventually, Mr. Benjamin went back to Australia and was never heard from again.

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Montessori invited Elise Herbatschek to Rome where she played the piano for Montessori's first two grandchildren, Marilena and Mario, junior. Montessori suggested that if she wished to do more with her music within the Montessori movement she should take one of the training courses. She took a course at St. Christopher's College in Litchworth. While at the course she continued to play for Dr. Montessori's grandchildren. Following the course she returned to the center in Vienna. In 1926, Montessori invited her to do the music lectures at the course in Milan. In 1927, she was invited to India by her friend, Kitty Shiva Rao, to begin a Montessori school for the Theosophical Society in Allahabad. She accepted the invitation and spent the next two years in India, much to the distress of Dr. Montessori who had counted on her help with the music in Vienna both at a training course and at the observation site (the Haus der Kinder mentioned before) for the students in the course. When she returned from India, they reconciled at a Montessori conference in Denmark, in 1929. She continued working at the Haus der Kinder in Vienna after her marriage to Herr Braun. She also gave music lectures at the training course in Rome in the spring of 1930 and at a 1932 conference held in Rome. When Hitler took over Vienna in 1938, the Braun family emmigrated to Benares in India,

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where Kitty Shiva Rao lived. There, Elise once again worked with children in an Indian Montessori class.

Before the second World War, she looked into publishing the collection of pieces for the movement exercises which are described above; however, the conditions in Europe were not favorable for publishing at that time. Part of the collection was finally published in 1957 in New York when she was an assistant professor of music at the City College of New York. The format is just as described by Mr. Benjamin.

After Maccheroni's death in 1965, her work was carried on principally by Signorina Pini at the Ente Opera Montessori in Rome and by Vittoria Fresco-Galeazzi who, for many years, was the music instructor at the Montessori Elementary Training Course at the Centro Internazionale Studi Montessoriani in Bergamo, Italy. The latter was the instructor for the four Americans with musical backgrounds who took their elementary training in Bergamo in the latter part of the sixties. Of these four, three received their musical education at the Westminster Choir College in Princeton, New Jersey in the late fifties and afterwards were involved in the Frances Clark Piano teaching method in Washington, D.C. These three are Elizabeth G. Hall, Sanford Jones and Martha Braedon Jones. The fourth person, Jean K. Miller, the author of this

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dissertation, was a music major at Hope College in Holland, Michigan in the late fifties and a student for five summers at the National Music Camp, Interlochen, Michigan, also in the fifties. After graduation she taught instrumental music in the Cleveland Public Schools and played in the Cleveland Philharmonic Orchestra.

All four of these musicians received Montessori training for ages two and one-half to seven, and six to twelve from the Association Montessori Internationale, all have worked in Montessori classes with children ages two and one-half to six, and Mr. and Mrs. Jones and Jean K. Miller have worked with children at the elementary school age. Sanford Jones, Elizabeth G. Hall and Jean K. Miller all travel to Montessori training courses in North America sponsored by the Association Montessori Internationale to give music lectures for the students.

At the present time Elizabeth Hall is a full time trainer for the Association Montessori Internationale. She resides in the Washington, D.C. area, is on the staff of the Washington Montessori Institute and commutes regularly to Cincinnati where she is on the staff of the Montessori Institute of Greater Cincinnati, Inc.

Sanford and Martha Jones reside in New York City, where Sanford is the headmaster of the St. Michael's Montessori School in Manhattan and Martha is pursuing her

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career as a concert pianist. She has given numerous concerts throughout the United States and has performed in Carnegie Hall. Martha has produced a series of Music History Records in cooperation with the North American Montessori Teachers Association (see Chapter IV) and Sanford has composed comtemporary music for the movement exercises on the line which are now being tested in Montessori classrooms. Together, Martha and Sanford have raised five children in a very musical home and have closely observed their children's musical sensitivities over the years.

Jean K. Miller resides in Cleveland Heights, Ohio, and is the executive director of the Montessori Development Foundation, a non-profit organization which does research and development work in close cooperation with the Association Montessori Internationale.

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CHAPTER I - FOOTNOTES

[1]Claude A. Claremont, untitled article in a special issue dedicated to Anna Maria Maccheroni, Communications, No. 3 (1966), p. 17.

[2]Anna Maria Maccheroni, A True Romance: Doctor Maria Montessori As I Knew Her, (Edinburgh: The Darien Press, n.d.) p. 5.

[3]Vittoria Fresco-Galeazzi, English summary of untitled article in Italian in a special issue dedicated to Anna Maria Maccheroni, Communications, No. 3 (1966), p. 37.

[4]Maccheroni, A True Romance, pp. 1-2.

[5]Fresco-Galeazzi, untitled article, p. 37.

[6]Maccheroni, A True Romance, p. 2.

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[9]Lina Traversa-Olivero, English summary of untitled article in Italian in a special issue dedicated to Anna Maria Maccheroni, Communications, No. 3 (1966), p. 12.

[10]Maccheroni, A True Romance, p. 7.

[11]Rosy Joosten-Chotzen, untitled article in a special issue dedicated to Anna Maria Maccheroni, Communications, No. 3 (1966), p. 18.

[12]Maccheroni, A True Romance, p. 19.

[13]Traversa-Olivero, untitled article, p. 13.

[14]Traversa-Olivero, untitled article, p. 13.

[15]Claremont, untitled article, p. 15.

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[16]Ragnhild Hoff, English summary of untitled article in German in a special issue dedicated to Anna Maria Maccheroni, Communications, No. 3 (1966), p. 26.

[17]Hoff, untitled article, p. 26.

[18]Joosten-Chotzen, untitled article, p. 18.

[19]Traversa-Olivero, untitled article, p. 13.

[20]Traversa-Olivero, untitled article, pp. 13-14.

[21]Maccheroni, A True Romance, p. 48.

[22]Helen Parkhurst, untitled article in a special issue dedicated to Anna Maria Maccheroni, Communications, No. 3 (1966), p. 15.

[23]Maccheroni, A True Romance, p. 55.

[24]Fresco-Galeazzi, untitled article, pp. 37-38.

[25]Fresco-Galeazzi, untitled article, pp. 37.

[26]Mario M. Montessori, interview at his home in Baarn, The Netherlands, July 1976.

[27]Maccheroni, A True Romance, p. 61.

[28]Maccheroni, A True Romance, p. 61.

[29]Maccheroni, A True Romance, p. 65.

[30]Joosten-Chotzen, untitled article, pp. 19, 20, 22.

[31]Joosten-Chotzen, untitled article, p. 22.

[32]Claremont, untitled article, pp. 16-17.

[33]Mario M. Montessori, untitled article in a special issue dedicated to Anna Maria Maccheroni, Communications, No. 3 (1966), p. 6.

[34]Fanny and Michel Lanternier, English summary of untitled article in French in a special issue dedicated to Anna Maria Maccheroni, Communications, No. 3 (1966), p. 31.

[35]Joosten-Chotzen, untitled article, p. 21.

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[36]Maccheroni, A True Romance, p. 109.

[37]Fresco-Galeazzi, untitled article, p. 38.

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[39]Vittoria Fresco-Galeazzi, interview in Rome, trans. Marsilia Palocci, July, 1976.

[40]Albert M. Joosten, interview in Calcutta, August, 1976.

[41]Camillo Grazzini, lecture at the Sixth International Training Course on Montessori Education in the Elementary School at the Centro Internazionale Studi Montessoriani, Bergamo, Italy, Spring, 1967.

[42]Joosten-Chotzen, untitled article, p. 19.

[43]Mario M. Montessori, untitled article, pp. 6-7.

[44]Hoff, untitled article, p. 26.

[45]Joosten, interview in Calcutta, August, 1976.

[46]Rita Kramer, Maria Montessori: A Biography, (New York: G. P. Putnam's Sons, 1976), p. 351.

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[50]Traversa-Olivero, untitled article, p. 14.

[51]Fresco-Galeazzi, untitled article, p. 38.

[52]Fresco-Galeazzi, untitled article, p. 38.

[53]Anna Maria Maccheroni, Lunghezza Delle Note In Brevi Melodie (unpublished booklet No. 4, from AMI's private collection), p. XI.

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[54]Lawrence Benjamin, lecture 37 at the London Montessori Training Course, (unpublished manuscript, from AMI's private collection), June 30, 1925, pp. 11-12.

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CHAPTER II

MUSIC IN THE HOME

Montessori and Maccheroni did not seem to have the opportunity to observe musical development in children below the age of two and one-half. Sanford and Martha Jones, two of the Americans mentioned in the first chapter, have provided their five children with a rich, musical background. Their observations and experiences have made an important contribution to the body of Montessori literature. Much of this chapter is based on their writing.

Parents are the most important people in children's lives. They provide a model for behavior. By taking time with children to do something enjoyable together, parents invest whatever is done with importance and thereby give their children a source of pleasure and enrichment for the whole of the children's lives. The parent, who counts the vitamin drops with great concentration and interest every morning, invests counting with importance and the child will automatically want to count. Parents who enjoy reading to their children on a regular basis invest reading with pleasure and interest. Their children will associate good feelings with reading and will have great interest

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and desire in learning to read.

Making a child perform, putting them "on the spot," is a different matter. Aversions to reading may be easily developed by pressuring and questioning a child. "What is this letter?" "What is this word?" The attitude of the parent is the all important key. No one can invest things or activities with importance the way a parent can. In the same way, no one can develope more intense aversions than a parent by forcing children to perform. In Montessori classes it has been observed that the children who avoid the materials which would help them learn to read are the children whose parents are anxiously exerting pressure to learn to read.

The Montessori approach to music attempts to introduce children to the language of music (the body of sounds and methods of combining sounds used to communicate feelings and musical ideas) in the same way they gained mastery over their native language. Music is considered to be a second native language and is presented from that point of view, so that the children will have the same security with music as they have with their own language. (See Figure 1.) The first developmental phase of language and music is a period of absorption.

> From the beginning of life, the child is surrounded by the spoken language of his family, and it is this particular way of speaking that he absorbs: the

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LANGUAGE DEVELOPMENT

LISTENING		SPOKEN	WRITTEN (including dictation)	READING
General	Specific			
people speaking in the environment	mother isolates single words	single sounds	single letters	single letters
		babbling		
		words	words	words
		phrases	phrases	phrases
		sentences	sentences	sentences
		paragraphs	paragraphs	paragraphs
		stories	stories	stories
				books

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MUSIC DEVELOPMENT

LISTENING		EXPLORATION, PLAYING EXTEMPORANEOUSLY, PERFORMING	WRITING (including dictation)	PLAYING BY EAR	READING MUSIC
General	Specific				
in environment	single pitches	single pitches	single pitches	single pitches	single pitches
	rhythms	rhythms	rhythms	rhythms	rhythms
	tone qualities	tone qualities		tone qualities	tone qualities
	2 or more pitches	2 or more pitches	2 or more pitches	2 or more pitches	2 or more pitches
	rhythms	rhythms	rhythms	rhythms	rhythms
	tone qualities	tone qualities		tone qualities	tone qualities
	phrases	phrases	phrases	phrases	phrases
	songs	songs	songs	songs	songs
	larger works	larger works	larger works	larger works	larger works

Figure 1

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> vocabulary, the syntax, the inflection. And it is simply by being in this linguistic environment that he learns how to speak. No one teaches him. In the same way, if the home environment includes music, the child absorbs it as another form of communication: as a natural expression of feeling and life-style, as a source of stimulation and energy, pleasure and repose. Both language and music become aids to the fulfillment of the child's needs. In language the child not only listens to others' speech but also gradually begins to express his own thoughts in words. In music he not only listens to pieces and songs which form his musical taste but also gradually begins to make spontaneous new music of his own expression.[1]

The second developmental phase is a period of sensorial exploration. The infant explores all the possible sounds of human language in the babbling stage and then selects out those sounds which are part of the particular language in his or her environment. The infant discovers that certain sounds produce a response in adults and this gives meaning and importance to those sounds. Eventually, the baby realizes that sounds have a purpose and that that purpose is communication, expression and stimulation. The baby's exploration of vocal sounds is an important clue for adult response. If the baby babbles a syllable on a specific musical pitch, the adult may respond by producing the same syllable and pitch. The adult should watch for a look of recognition and delight in the baby's eye. Soon the two may be singing pitches back and forth to each other. At first the adult matches the baby's pitch. Later the baby will be able to match

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the adult's pitch. According to Sanford and Martha Jones, the age of eight months is the height of the sensitive period for pitch matching and the development of perfect pitch. They describe another means to assist the baby's musical development:

> As the mother is rocking the child and singing to him, perhaps the baby begins to coo along, as distinct from babbling. Then the mother might sing simple sounds in sing-song to the baby ("ya, ya"), waiting for the baby to sing it back. Soon you can sing it together. This could lead into sing-songing some naming words he can say, such as "Da-da" or "Bye-bye". He probably won't sing whole songs until around age 3, when he speaks whole sentences. In the meantime you can make up your own singing games:
>
> Parent: "Where is teddy bear?
> Where is teddy bear?"
> Child: (uncovers the bear)
> Both: "Here it is!"
>
> You can play a game in which the child sings "La . . ." and you join in on his pitch. The two of you then repeat the same pitch like a violinist tuning a string! (If the child's pitch slips higher or lower, go with his pitch.) Later, you can help him to sing parts of songs he has already heard many times: he will repeat the part he can do easily.[2]

The development of movement is another important aspect of the child's eventual musical development and expression. Martha and Sanford Jones write:

> When the infant is carried in the parent's arm, he experiences natural body rhythms. As he begins his own unconscious experiments with movement, he often moves rhythmically. Encourage him to repeat these steady movements many times, perhaps, by adding words as he moves, "Kick, kick, kick your legs", or "Pat the doll, pat the doll". We want to make conscious for the child something that he has done quite unconsciously. Through repetition the child's concentration becomes more intense, and his interest is extended, often into long periods of time that will amaze

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> the adults. Later, he should be taken on exploration walks (as opposed to walks to some special destination). In her lecture at Mills College Lena Wikramaratne stressed the importance of "rambles through the countryside" as a means for the child to gain courage to learn forethought and to achieve equilibrium: "the child is building up not only balance, but also assurance within himself". These activities prepare the child for perfection-of-movement exercises in the Primary Class. A well-coordinated child finds rhythm in music very pleasurable.[3]

Exposure to rhythm begins in the womb with the sounds of the mother's heartbeat. After birth, special, warm, cozy times between mothers and infants may be accompanied by singing along with movements in time to the music. The movement could take the form of walking, rocking or patting the baby's back. Just as the aware adult responds to the baby's musical pitches, so may the adult respond to the baby's rhythms. A typical baby rhythm is: short, short, long. This may be heard when the baby is playing on the kitchen floor with a wooden spoon and a kettle. The adult may also get a wooden spoon and a kettle and respond accordingly. Again, when the baby becomes conscious of the similarity, there will be a look of recognition and delight. Elaborating on this idea, Martha and Sanford Jones write:

> The child begins to strike one object upon another. This can lead into experiments with contrasting sounds - the differences between playing a spoon on a metal pot and on a cardboard box. When he tires of one sound, give him two pans equidistant from his sides, and let him swing his body back and forth rhythmically between the two. This will meet his need to start

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> playing musical instruments. In the repetition of any of the types of activity suggested above, the parents need only to further the momentum of the child's interest and then to withdraw gradually until he does the activity without help. This kind of experience with music prepares the child not only for work in the Primary classroom, but it also facilitates his adaptation to and participation in family life.[4]

At around eighteen months when the toddler gains more bodily control, little commands may be spontaneously sung which both relate to and follow typical motions. An example is: "Run, run, run, run, run, run, stop."

Listening is an important component of musical experience. Adults can do a great deal to help children focus on listening. The adult may call attention to sounds or may respond to a child's interest and curiosity about sounds by saying such things as:

"Sh . . . ! Listen to the rain drops."

"I can hear the church bells."

"Can you hear my watch tick?"

"Let's listen for the train."

The above not only helps to focus attention on sound or bring awareness of sound to conscious levels, it also identifies and names the source of the sound. It is important that children be given the names of things. It is the task of adults to name the child's outer environment (sights, sounds, smells, tastes, touches, textures, and motions) as well as the child's inner environment of emo-

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tions and feelings. These names crystalize and clarify experience and give children the possibility of thinking in words and speaking about their experiences.

Specific encouragement for musical listening may be given by saying such things as:

"Would you like to hear 'Twinkle, Twinkle'?"

"Let's listen to a minuet by Mozart."[5]

In offering encouragement to parents, Sanford and Martha Jones make the following suggestions:

> The Montessori point of view stresses that the parents need to give the child a special environment from which he can absorb music. Since music is invisible, this special environment is not so much a physical one but an environment in which interest in sound is created. The parents need to determine what kinds of music they want their young child to hear regularly (not just as background music); they might also consider the general sound-level within the household - perhaps setting some limits on noise or volume-levels in order that everyone's needs are respected. Hopefully, the family group will sing together around the table or on trips; perhaps someone will be studying modern dance or an instrument; and maybe there will emerge informal improvisations, such as making up a song about animals seen on a trip to the zoo.
>
> Parents' Role in Daily Music-Making:
>
> Just as parents aid the child's developing speech, they can also aid his developing musical skills. They need to consider two things: 1) to be on the lookout for the child's signs of curiosity toward any aspects of music-making; 2) to help the child explore those aspects while his need is still obvious. The first part involves observation of the baby's interest as revealed by the expression in his eyes, by his voice and body movements. The second part involves inviting him to try "key" activities which he can repeat at will. When he has repeated the activity and has derived the good from

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> it, he will tire of it; he is then free to pursue another one. Each little musical experience increases his joy and enlarges his musical interest.[6]

Children's concerts are often aired on TV. For the very young child TV concerts have some definite advantages over attendance in a concert hall. First and foremost, the child who has had enough may turn off the set and/or leave the room; while attendance at a live concert may push a child beyond his or her limits of endurance, thus associating negative feelings with concerts. TV camera work may provide interesting views of performers playing their instruments. It is important for parents to sit in front of the TV with the child until the end of the concert or as long as the child lasts - whichever comes first - in order that the adult invest the activity with importance. The warmth of a time shared together should be associated with the experience and the adult should be available to answer questions or just to listen to the child talk about the experience.

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CHAPTER II - FOOTNOTES

[1]Martha and Sanford Jones, "Music Education from Birth to Twelve", The N.A.M.T.A. Quarterly, Vol. III, No. 2 (Winter 1978), p. 9.

[2]Martha and Sanford Jones, "Music Education," p. 12.

[3]Martha and Sanford Jones, "Music Education," p. 12.

[4]Martha and Sanford Jones, "Music Education," pp. 12-13.

[5]Martha and Sanford Jones, "Music Education," p. 12.

[6]Martha and Sanford Jones, "Music Education," p. 11.

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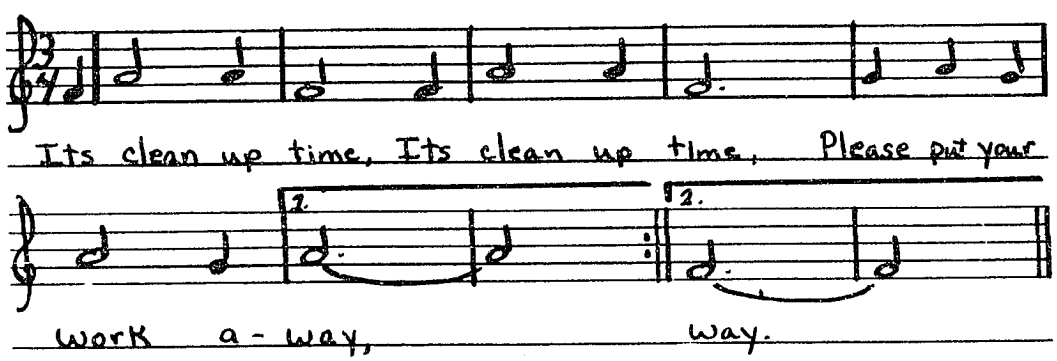
CHAPTER III

SINGING

With young people ages two and one-half to six, singing begins on the very first day of school with simple songs. The singing of these songs is a social activity which facilitates the development of a community spirit within the classroom. Singing itself, in various forms, is a part of the on-going life of the class. It does not always need to be done in a formal way. It may be used throughout the day to give directions, exchange greetings, make pleasant remarks and to fill awkward time periods. An example of direction giving is "The Clean Up Song":



It is important to build a repertoire of simple songs and melodies. If a minimum of two new songs are prepared for each week it is likely that at least one of them will be introduced.

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Simple melodies provide a repertoire of tunes which will be relatively easy to play by ear on the bells. It is important that children experience the pleasure of the production of music both in their own compositions and in the familiar tunes which they have enjoyed singing with their friends.

Repeated experiences of singing the repertoire of songs together in a group aids community spirit. It also helps develop the ability to sing on pitch and it provides opportunities to build up auditory memory. The latter is a most helpful skill to build up in cultures that tend to rely on the written word rather than memory.

The songs may be used to fill awkward time periods such as those moments when all are ready but the car pools have not yet arrived. Singing together can help to prevent a breakdown in social relationship and individual behavior at those times.

Simple melodies may provide a base for later study of other techniques or areas of music. Introduction of something new in an already familiar tune is a way to isolate the difficulty because the attention can be focused on the new idea without the added struggle of having to deal with a new song or melody.

Later use of the melodies (which are discussed in Chapters V, VI and X, as well as in this chapter) include:

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1. Playing by ear on the bells.
2. Playing with percussion band instruments.
3. Study of melodic design.
4. Study of conducting.
5. Study of time signatures
6. Study of musical terms
7. Study of musical form.
8. Study of dynamics.
9. Study of tempo.
10. Practice in reading musical notation.
11. Study of articulation.
12. Practice in notating familiar melodies.
13. The experience of pitch dictation.
14. Changing words to the songs and improvising.
15. Composing own words to the melodies.
16. Transposition of simple melodies from one key to another.

Singing is also interrelated with other areas in a Montessori environment. It is a general rule in Montessori that the children be as active as possible in all lessons. Singing a song related to a lesson in geography, history, biology, etc., not only provides an opportunity for active participation, it also provides points of interest and/or reinforces points of consciousness in the lesson as well as providing a basis for discussion and reinforcement of concepts and ideas. Curriculum areas and topics to which singing can relate include:

1. Geography (including songs in foreign languages)
2. History (including exploration)
3. Literature
4. The arts
5. Science (including weather, seasons)
6. Biology (including botany, zoology and human anatomy)
7. Sense of self
8. Family
9. People
10. Friendships

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11. Feelings
12. Lullabies
13. Dress and costumes
14. Food (with emphasis on good nutrition)
15. Transportation
16. Housing
17. Religion
18. Holidays
19. Death
20. Foreign language
21. Reinforce imagination relating to reality
22. Musical instruments
23. Movement
24. Mathematics
25. Passage of time
26. Types of work

Some examples of the above may be found in Appendix I.

It is important that songs chosen for two and one-half to six year olds reflect their real everyday life (e.g., "It Rained A Mist", see Appendix I) as well as catch their imagination (e.g., "Let's Take A Trip To The Jungle", see Appendix I). Criteria for selecting songs includes the following:

1. For ease in acquiring the songs, spontaneously playing them on the bells and later reading their notation choose:

    a. Simple, easy to sing melodies
    b. Melodies which do not have large leaps
    c. Melodies which have a short range of notes (A five or six note range is preferable in order not to strain young vocal chords. "Do not ever force the children's voices either by having them sing loudly or by having them sing notes to high or too long."[1]
    d. Melodies which have a stepwise progression of notes.
    e. Melodies in which the musical form is clear

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f. Pieces which are short enough to be easily retained in the memory
g. Songs which have much repetition in words and note patterns (e.g., "Are You Sleeping")
h. Ballads with many refrains (At first the adult sings the verses and the young people join in on the refrain)

2. To lead to the young people's own composition of lyrics choose:

a. Songs in which the adult changes the words to fit the young people (e.g., "Mary Wore Her Red Dress", see Appendix I)
b. Songs in which the young people change words or phrases (e.g., "I've Lost My Closet Key", see Appendix I)
c. Scale songs in which the young people make suggestions (e.g., "I'm Going to Europe and I'm Going to Visit _____", see Appendix I)
d. Scale songs for which the young people compose all the words (see examples in Appendix I)
e. Melodies for which the young people may compose all the words (see Appendix I)

3. To lead to the child's expression of ideas through whole body movement.

New songs may be prepared for in advance in several ways. If the melody and rhythm are appropriate, the tune might be used for the movement on the line exercises (see Chapter VII). The words could be taught as a poem. The song could be sung by an adult several days before the lesson in which the song will be taught. Words for new songs could be available in the reading corner of the environment.

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Vittoria Fresco-Galeazzi, a student of Anna Maria Maccheroni, gave the following advice to Montessori students in training at the 11th International Training Course in Bergamo, Italy in 1972:

1. Study the song very well before teaching it .
2. It is better to sing without accompaniment on the piano; it is the human voice that the child must imitate. If possible, use a guitar for accompaniment.
3. Scrupulously respect the rhythm and the tempo of the song as well as the exact pitch of the notes, being careful that the pronunciation is exact and paying attention to any inflections of dialect.
4. For very small children, sing slower the first time . . . to make the words more understandable; then sing the song at its proper tempo.
5. In singing avoid all affectation or special emphasis, but give the child a fresh and spontaneous execution.
6. With small children do not direct the song to avoid having the children copy the gestures of the teacher (something which happens spontaneously) distracting from the song.[2]

Steps in teaching a song include the following:

1. Give the name of the song.
2. Always begin on the same pitch. Strike the appropriate bell to make the pitch audible. This is especially helpful to those who are developing perfect pitch. Many of the young people will get to the point where they start the song on the correct pitch without having to hear the pitch played first.
3. Sing the whole song, unless it is very long.
4. Talk about any of the words that the young people want clarified. If this results in a long discussion, sing the song again.
5. Play the melody on the bells, if possible.
6. Say the whole song as a poem, keeping the words in the rhythm of the music.
7. The adult says a phrase and the young poeple repeat it. Go through the whole verse in this manner. The adult points toward him or herself during the adults turn and toward the children

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when it is their turn. For the sake of clarity, the adult speaks only during the adult's turn. Depending upon the group involved, it may or may not be necessary to have an aide seated with the group who will speak with them during their turn.

8. Say the whole song together.
9. Say the whole song in unison, silently. This is a step the children particularly enjoy. In addition to the enjoyment, it serves to emphasize both diction and rhythm and it helps to move musical expression from the audible level to a mental level.
10. The group says the song silently while the adult sings it. This gives them the opportunity to get used to the way the words go with the melody without having to put the two together themselves.
11. Sing the whole song together.
12. Repeat the song as often as may be gracefully done.
13. Mention the name of the song again.

Any of the above steps may be repeated as necessary; however, it is important that the experience be kept moving. Some songs are so simple or so well-known that they need not be taught in this manner. Songs in which some of the words are changed to fit the children's suggestions may be introduced simply by the adult singing them (e.g., "Mary Wore Her Red Dress," "I've Lost The Closet Key", "Johnny Get your Hair Cut", etc. See Appendix I). Eventually the children will join in.

The thirteen step procedure for teaching a song may be used with a small group or a large group. The group may be led by an adult or by a child. It may occur within a geography lesson, during a music lesson or in awkward moments such as when every person but one has

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been served a cupcake at the birthday party and the mother who is responsible for the party is frantically running out to get the other box of cupcakes in her car.

The thirteen step procedure may not appeal to the very young members of the class. For them, simple repetition of the songs may be the most appropriate.[3]

Although songs are generally taught in groups, the children are free to break into song at any time during the day other than when they are involved in group lessons or collective activities. The music lessons

> . . . often became a motive for spontaneous activity later on. It might happen for instance, that a child would spontaneously begin a song and while continuing with their work a growing number of other children would join until gradually the song would die out into silence again. The directress did not object, on the contrary, she joined in.[4]

If any of the songs suggest a gesture, don't show any. Leave gesture to the children's own creativity. It is not necessary that everyone gesture, nor is it necessary that all gestures be the same. If the adult teaches the gestures and/or insists that everyone gesture in the same manner, creativity is stifled and the children are not encouraged to feel their own response to the music.

Different kinds of gestures and movements are appropriate in different situations and many very young children have not yet developed judgement about when, where and what is appropriate. Songs which suggest

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gestures for hands and arms are appropriate in the classroom environment. If a song requires or suggests more action than just hands and arms, then it should be taught in the hall, gymnasium or outdoors. Songs which are appropriate for the playground, such as: "A Tisket A Tasket" and "London Bridge" should be included. These help provide children with positive activities for the playground, rather than just chasing each other around.[5]

The repertoire of simple songs should include a variety selected from classical music, folk songs, holiday songs, popular music, foreign songs, hymns and chants. Folk songs make especially good choices as they lend themselves very naturally to elaboration.

In Italy and Spain, Montessori found that Gregorian Chant was especially favored. She said:

> Among the songs which we offer to the children, the greatest favorite proved to be the syllabic Gregorian Chant. It is something like a very perfect form of speech. It has a conversational intonation, the softness of a sentence well pronounced, the full roundness of the musical phrase. The examples given here have almost the movement of the scale.
>
> Many other verses of the Gregorian Chant have, like these, proved to be the delight of the Montessori Elementary School of Barcelona. There the children are especially keen about this very simple music which they like to play on the piano, on their plates (Xylophones) or on their monochords.

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Ro - ra - te Cœ - li de su - per
et nu - bes plu - ant ju - stum
Pu - er na - tus in Beth - le - em, al - le - lu - ia.
Un - de gau - det Je - ru - sa - lem Al - le - lu -
ia Al - le - lu - ia In Cor - dis ju - bi - lo
Chri-stum na-tum a - do - re-mus, Cum no - vo Can - ti - co.

Examples from other cultures and eras may be found which will have the same appeal to the children.

As the singing ability of the class progresses, longer and more difficult songs may be introduced. It is important not to keep the class forever at a simple song level. The guiding principle is that songs should be selected that offer the possibility of successful participation and that are interesting.

The adult who leads the singing in a Montessori class does not need to have a beautiful voice; however,

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good pitch is important as is soft, clear singing. When singing is introduced in a classroom for the first time, it is important that the adult not be discouraged with the results. In fact, the quality of singing may be quite distressing to the adults the whole first year. The continuing experience is important to the development of the ability to sing on pitch. The second year will sound better, the third year will be still better.

In keeping with Montessori's non-competitive atmosphere, songs which single out winners and losers would not be included. Also to be avoided is singing with a record. It's too difficult. After a few of the songs on a record are known, the record may be played.[8] Singing with a piano may cause the young people to sing louder and louder in order to hear themselves. With this kind of singing, delicacy of musical expression is lost and damage to vocal chords may result.

Actual lessons on how to sing softly are given.

> The tone of the bell, which is soft and gentle, is an admirable accompaniment to the sound of the child's voice. The children begin to sing a prolonged note on the vowel sound O. It is a simple exercise but the children enjoy it very much, and they hum or sing very softly. It is sufficient for the teacher merely to begin and immediately three or four children will form a group and do it with her. To sing softly is really an individual lesson, but it is usually such a success that it ends by being a collective lesson. For instance, if one obtains absolute silence, and then strikes the bells gently, accompanying them in a soft voice, the children are fascinated; and in a

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> large class, there will always be found children who are ready for the exercise and who do it and display their ability. These children show the way to the others, who begin by listening. If this exercise is carried out a little every day, one very soon has the whole class in a condition to follow this singing exactly.[9]

The singing of simple songs is not the only singing activity in a Montessori class. Montessori said:

> The singing of a scale, first in accompaniment with the bells and later with the piano is a first and great delight to the children. They sing it in various ways, now in a low voice, now very loud, now all together in unison, now one by one. They sing divided into two groups, sharing the notes alternately between them.[10]

Anna Maria Maccheroni expanded on the above idea to include:

1. Matching pitches
2. Singing questions and answers
3. Singing with the C major scale both for pitch and pronunciation
4. Singing with the music charts
5. Singing in parts
6. Repeating all of the above with the minor scale (C minor)
7. Singing with the chromatic scale[11]

For matching pitches the adult plays a note on the bells, piano or other instrument and the children repeat it with their voices. It may be necessary to have the children listen many times before they proceed as follows:

1. Children sing softly, "o" on each note.
2. They do the same saying two vowels on each note, for instance, "a,o".
3. Children listen to the sound until it fades away and then they sing it so that their voices are heard alone without accompaniment.
4. Children are in two groups. One group sings the

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note with accompaniment, then, the other group repeats without accompaniment.

5. Echo. A note is played only once. Then one child (or a group of children) repeats it; then another child, then another child, then another and so on.[12]

Variations on the above exercises include doing the above with two different pitches and having the adult sing the pitches instead of playing them on an instrument. Step two, above, can be expanded to include the sounds of five short vowels on one pitch. The adult sings the vowel A, slowly changes to E and then I, O and U. (The sounds of the vowels are sung, not their names.) The children imitate.[13]

The question and answer activity may begin on one pitch. The adult plays one of the bells and sings: "How do you do?". The answer is sung on the same pitch and may be a very polite, "Quite well, thank you", or anything else the child wishes to sing (e.g., "I have a runny nose and I should have stayed home." "I am very happy because today's my birthday.", etc.) The children may, themselves, decide to use a single pitch as a reciting tone for "conversations". They may also think of using two pitches. If not, the adult may suggest it. Any two pitches may be chosen that are reasonable to sing such as:

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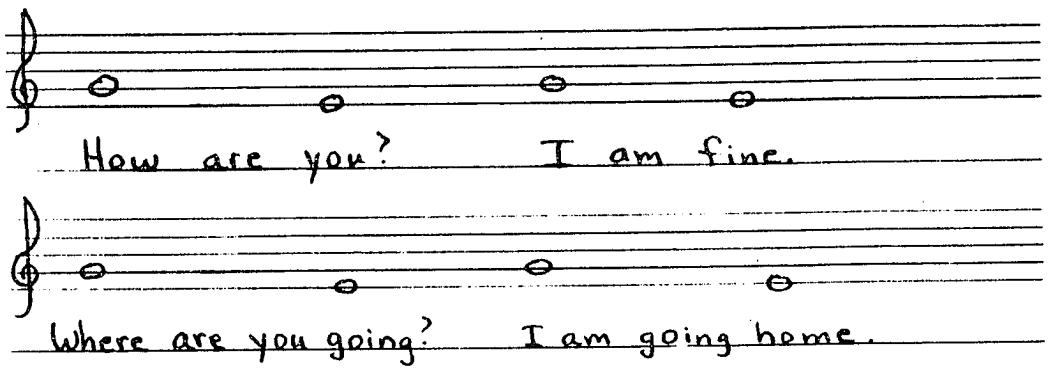
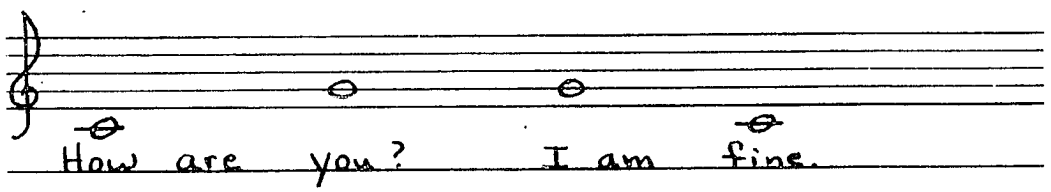
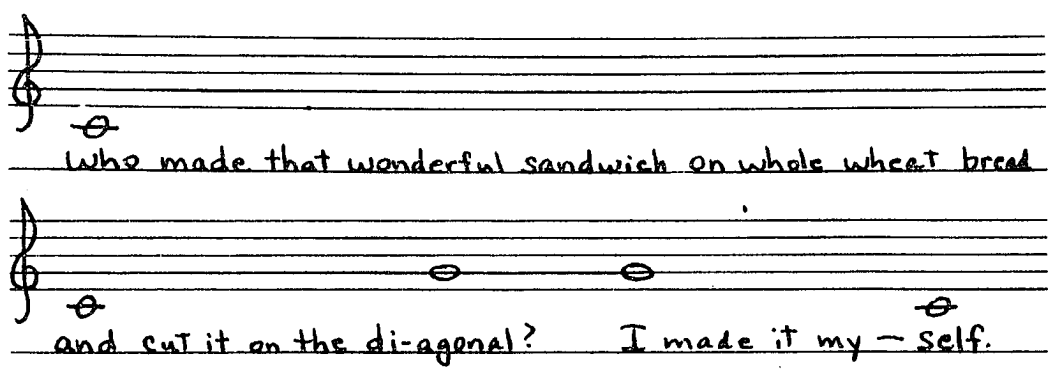


The pitches for the answer may be the reverse of the pitches used for the question.



As many words may be sung on one note as desired, just as in the chanting style of the Lutheran Church. At this point it would be inappropriate to expect the children to make their words fit a rhythmic pattern. To do so would greatly inhibit their creativity. With this chanting style, they are able to find the rhythmic pattern themselves.



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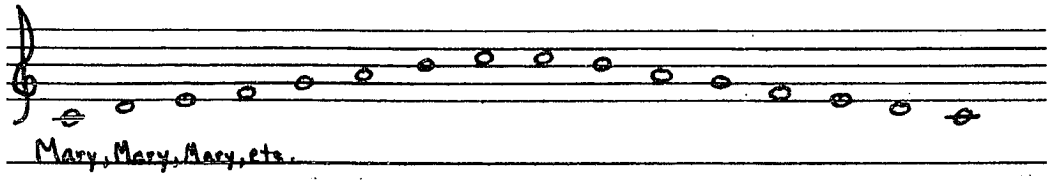
Eventually the answers become more elaborate and the young people improvise melodies on the spot. According to Sanford Jones, the optimum sensitivity for this kind of activity occurs about age three and one-half years.[14]

Singing with the scale is done with the bells. The voice accompanies the playing of the ascending and descending C major scale in various ways; always with clear pronunciation:

a. Sing o-o-o-o- on each note of the scale.
b. Sing vowel sounds on each note of the scale. "One exercise which the children find very interesting is to take the five vowel sounds and to sing them to each note. This is really a form of gymnastics for pronunciation, and helps the children to perfect themselves."[15]
c. Sing a name on each note of the scale no matter how many syllables the name has. (The simplicity of doing one thing and repeating it on each note of the scale makes it possible for the youngest children to participate and be creative.)



Note: Be sensitive as to whether or not Mary wants or can stand this much attention focused on her.

d. Sing a greeting; i.e., "Hello", "Good-bye", "How are you", etc., on each note of the scale.
e. Sing a whole verse of poetry on each note of the scale.

An echo effect may be used with any of the above. At first all sing the first pitch relatively loudly and then repeat it softly. This is done in turn for each note

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of the ascending and descending scale. Later, the group may be divided in half with one-half singing relatively loudly and the other half echoing softly. Three groups could do loud, medium, soft. At first this exercise may be accompanied by the bells, later it is sung without accompaniment.

Alternate notes of the scale may be sung by different groups. At first every note may be alternated, the first group singing the first note, the second group singing the second note, the first group singing the third note, the second group singing the fourth note, etc. Later, the first group sings the first two notes, the second group sings the third and fourth notes, etc. Finally, the first group sings the first four notes and the second group sings the next four notes, etc. The four note pattern is called the tetrachord and is discussed in Chapter V.

"Variations of these exercises are left to the inventiveness of the teacher and the children."[16]

With all of this work it is important not to force individual children to sing. Allow them to listen as long as they like and to join in when they feel comfortable doing so. It is equally important to let everyone sing who wishes to. One learns to sing on pitch by singing.

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> One knows that children all sing somehow. We should not prevent them from singing until they have learned how to sing, any more than we should prevent the little two-year-old child from speaking until he knows how to do so correctly. As they sing of themselves, we let them . . . which helps them to perfect themselves.[17]

Individuals who seem to be having special difficulty with pitch work may be given extra help in listening and reproducing pitches in small group work. The young person who cannot yet build the pink tower (ten wooden blocks in a series from 1 cm^3 to 10 cm^3) is the one who needs to work with it. A person of any age who has difficulty matching pitches can be helped by practicing matching pitches; however, success comes more easily to the young person who is in the sensitive period for pitch awareness.

For children who are secure with the singing of the scale, Anna Maria Maccheroni listed the following more difficult exercises:

1. The low c is played. A child sings the next note, d, another the next note, e, and so on.
2. The low c is played. A child sings e; then d is played and a child sings f and so on.
3. A child (or a group of children) sings the note, c, with accompaniment. Another joins in singing e, then a third singing g. All three continue repeating the same note.
4. The same is done without accompaniment.
5. A note is played and the children sing the next one (in the scale).
6. A note is played and the children sing the lower note (the next lower note in the scale.)[18]

When the names of the pitches have been learned with the help of the bells (see Chapter VI) then the names

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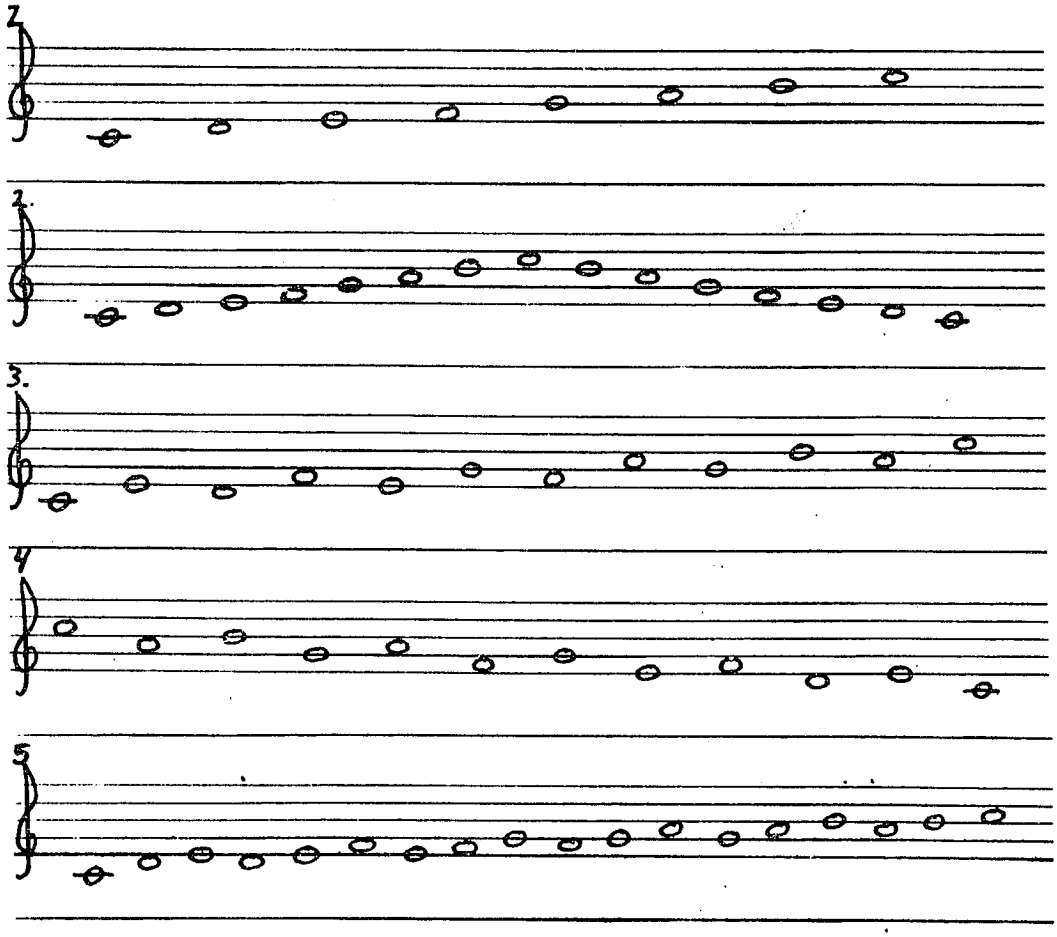
of the pitches may be sung in all of the foregoing singing exercises.

Other vocal exercises use the same note patterns as are found on charts which are used with the bells. These charts help children learn to recognize note patterns. (See Chapter VI) The following charts are reproduced from The First Book by Anna Maria Maccheroni. Charts 17, 19 and 20 do not appear in a later version produced by Nienhuis Montessori, the Dutch manufacturer of Montessori material.



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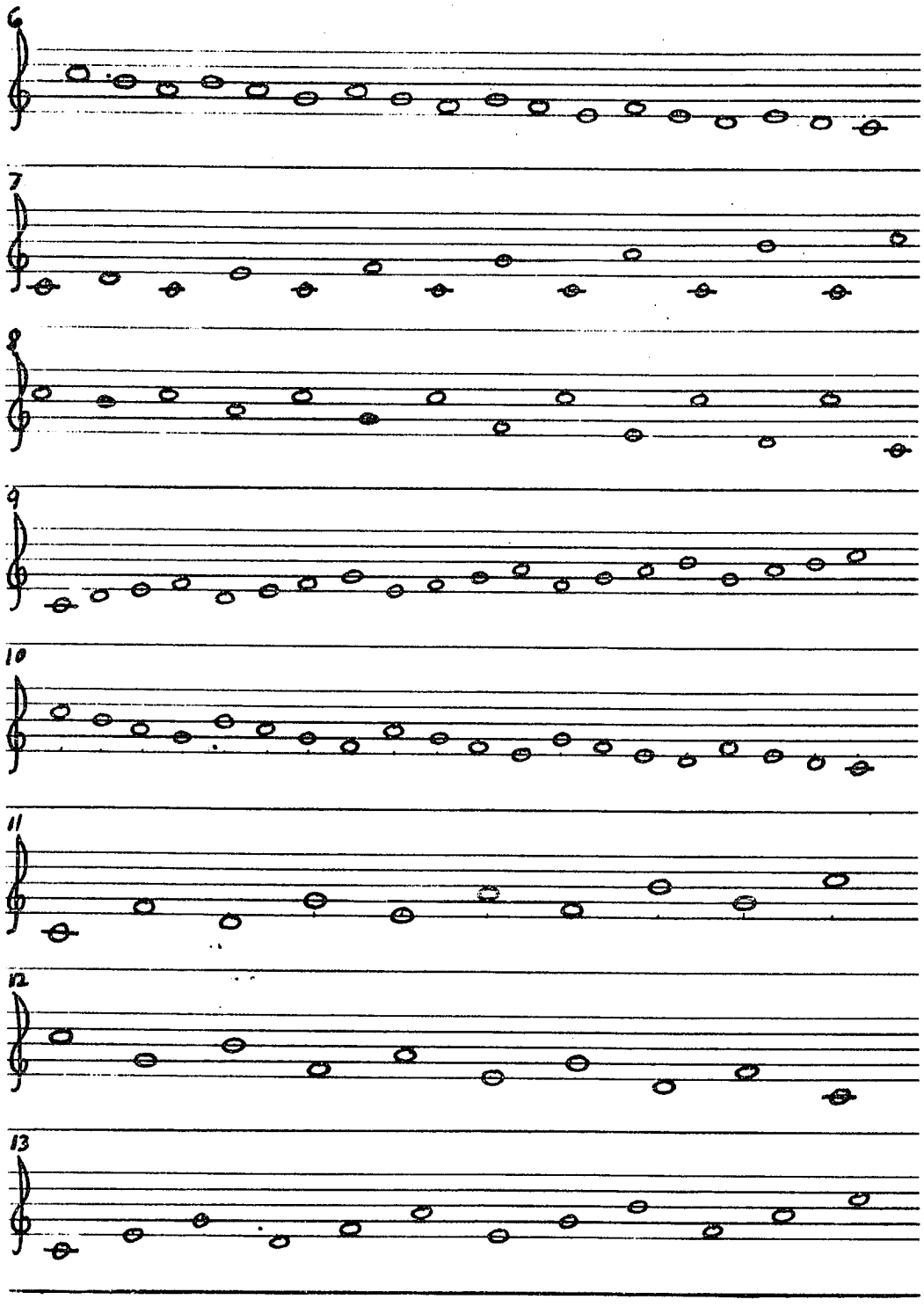

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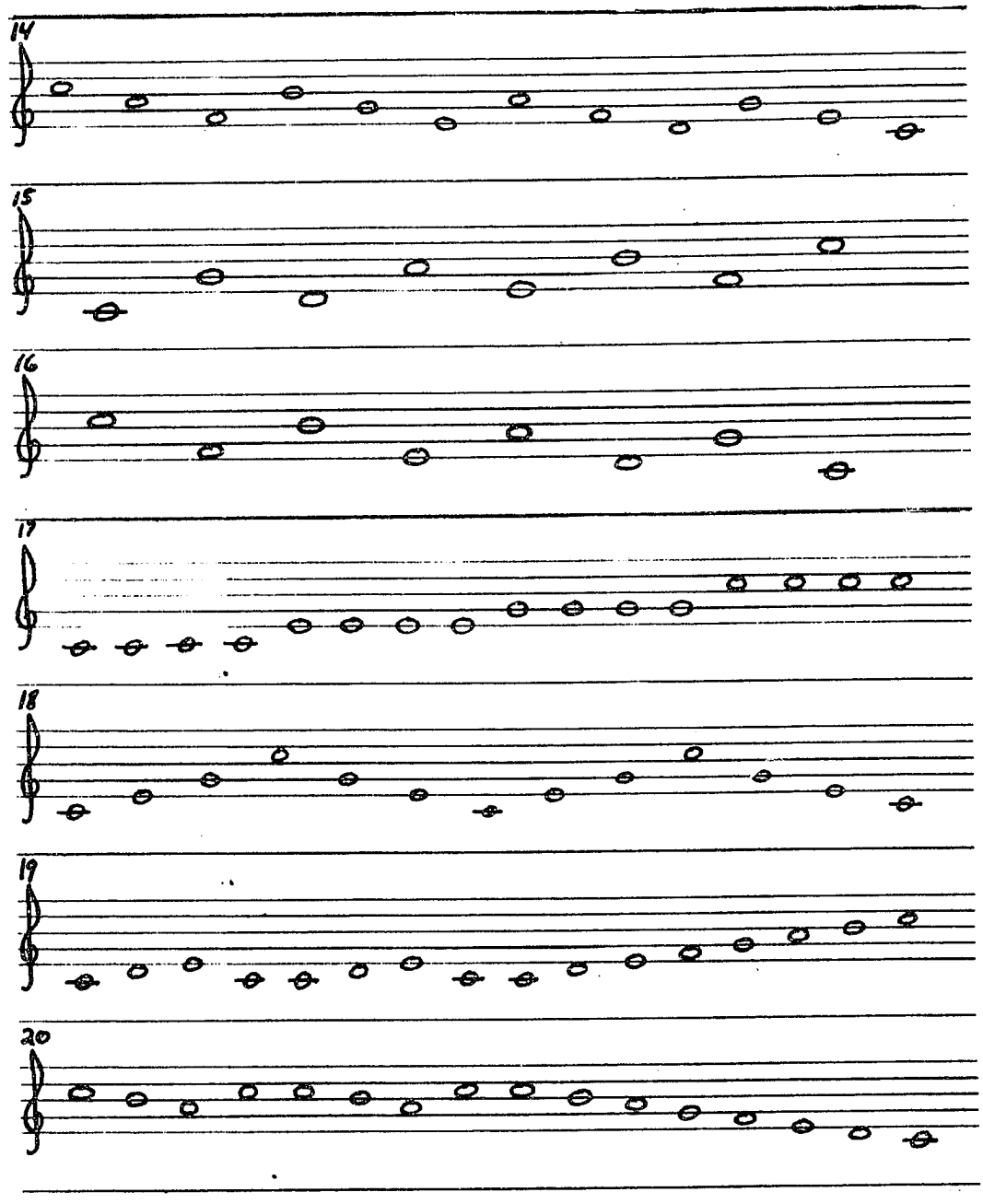

In doing vocal exercises with these music charts, the examples that proceed in a stepwise manner are used first. Those with skips are used later. In addition to hearing the example sung, visual clues help the children

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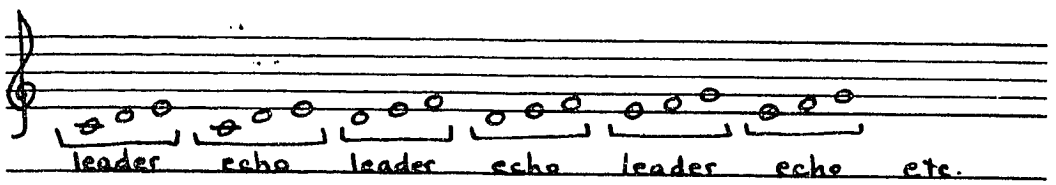
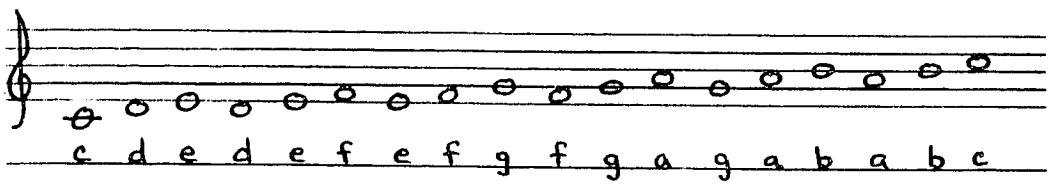
"see" the direction the melody line is taking. Visual clues may be provided by playing the exercise on the bells (they soon come to know that lower tones are to the left and higher tones are to the right) or by giving hand signals in the air. When doing the latter, the pitches of the scale are considered to be the rungs on a ladder. The leader moves his or her hand up and down in the air to correspond with the melody.

Except for the first two charts, an echo technique may be used with the leader singing part of the exercise and the children repeating it, then the adult sings the next part, etc.



The leader may also sing his or her parts audibly with the echo parts being done inaudibly, "inside oneself". This is another way to help the children hear the music mentally.

After the names of the notes have been learned (see Chapter VI), the names themselves may be sung.



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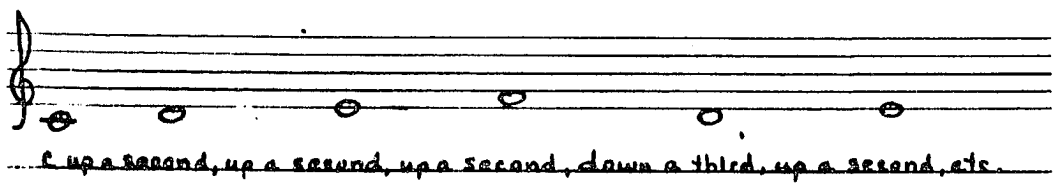
After intervals have been studied the exercises may be sung indicating the intervals.



This corresponds with the first level of interval work which does not yet use the terms major, minor or perfect. When those terms have been added, then the charts may be re-examined and analyzed in the light of the new terms. This is a good example of the progressive levels of work which are built in to many of the Montessori materials.

Anna Maria Maccheroni suggested the following vocal exercises which deal specifically with the interval of a third.

1. The children sing the thirds c e, d f, etc., with and without accompaniment.
2. The children listen to a note, then sing its third without accompaniment.
3. They listen to two notes, then they say if it is a third.
4. Two groups of children sing the scale in thirds; one of the two groups always singing the low note of each third.
5. While the scale is being played, the children sing the third of each note so that the accompaniment and the voices are heard together. The accompaniment plays the low note of each third.
6. Several notes are played, not in the scale order. As each note is played the children sing its third.
7. Two vowels (or a word of two syllables) are sung on thirds up and down the scale.[20]

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Maccheroni suggests that all of the vocal exercise work detailed above also be done with the C minor scale:

1. All previous exercises are repeated with the notes of C minor.
2. Children listen to a semitone (say e and e flat) and then they sing these two notes with accompaniment.
3. The same without accompaniment.
4. An attempt is made at the chromatic scale![21]

"All that the children have sung at the beginning by imitation is to be followed by presenting the written music, so that the children can read what they sing."[22] In a note at the end of all these exercises Maccheroni says, "Children write down in their own music Copy Book all that is in this 'FIRST BOOK' and anything else they choose to write down. They sing at sight any exercise they have written in the Copy Book."[23]

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CHAPTER III - FOOTNOTES

[1]Anna Maria Maccheroni, Lunghezza Delle Note In Brevi Melodie (unpublished booklet No. 4, from AMI's private collection), p. 11.

[2]Vittoria Fresco-Galeazzi, "Course on Music Education", handout accompanying lecture at the 11th International Training Course at the Centro Internazionale Studi Montessoriani, Bergamo, Italy, trans. Sr. Mary Aloyse Gerhardstein, R.S.M., January 24-27, 1972, p. 7.

[3]Rita Schaefer, interview in Milwaukee, Wisconsin, Spring 1979.

[4]Rosy Jooston-Chotzen, untitled article in a special issue dedicated to Anna Maria Maccheroni, Communications, No. 3 (1966), p. 21.

[5]Elizabeth G. Hall, music lecture from "Children's House Training Course" (2½ to 7 years old) 2nd course of the Montessori Institute of Cleveland, Cleveland, Ohio, March, 1979.

[6]Maria Montessori, The Montessori Elementary Material, trans. by Arthur Livingston, (Cambridge: Robert Bentley, Inc., 1965), pp. 365-366.

[7]Hall, music lecture, March, 1979.

[8]Hall, music lecture, March, 1979.

[9]Anna Maria Maccheroni, lecture 37 at the London Montessori Training Course, (unpublished manuscript, from AMI's private collection), June 28, 1921, p. 5.

[10]Maria Montessori, Elementary Material, p. 365.

[11]Anna Maria Maccheroni, The First Book (London: Philip & Tacey, Ltd., pre-World War II), p. 20-24.

[12]Maccheroni, The First Book, p. 20.

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[13]Vittoria Fresco-Galeazzi, "Course on Music Education", lecture at the Sixth International Training Course at the Centro Internazionale Studi Montessoriani, Bergamo, Italy, Spring 1967.

[14]Sanford Jones, "Music for Children", handout accompanying music workshop sponsored by the Montessori Development Foundation, Cleveland Heights, Ohio, Summer 1972, p. 3.

[15]Maccheroni, lecture 37, p. 6.

[16]Fresco-Galeazzi, "Music Education", Spring 1967.

[17]Maccheroni, lecture 37, p. 5-6.

[18]Maccheroni, The First Book, p. 21.

[19]Maccheroni, The First Book, pp. 2-6.

[20]Maccheroni, The First Book, p. 22.

[21]Maccheroni, The First Book, p. 24.

[22]Fresco-Galeazzi, "Music Education", Spring 1967.

[23]Maccheroni, The First Book, p. 24.

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CHAPTER IV

LISTENING

The ability to listen to music is developed in a variety of ways within a Montessori environment. In addition to listening to music itself, there are many other means to aid children of ages two and one-half to six in the development of their ability to focus concentration on their auditory sense.

Aids to the Development of Listening in a Montessori Environment

> A Montessori environment is, first of all, very carefully prepared, both in arrangement and with materials that will allow noise to become a control of error. This means that the environment is uncarpeted so that awkward or careless movements may provide auditory feedback. No background music, appliances or noisy machines are used which could interfer with this auditory feedback. If an environment is extremely accoustically alive then cork board or some walls or velvet curtains could be used to make the environment liveable; however, in no case is carpeting to be used for this purpose.
>
> The adult listens to the young people, regards what they have to say as important and does not interrupt them unless it is necessary. The adult also makes a point of talking in clear sentences, using precise pronunciation and of giving clear directions. The degree of consistancy and clarity on the part of the adults in the Montessori environment has a direct bearing on the degree of attentiveness of the young people. Contradictions and confused directions are eventually tuned out or ignored.

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If the adult expects the young people to listen attentively and to speak with quiet voices, then he or she must be prepared at all times to be a model of attentiveness and quiet speech. The fact that the adult speaks quietly provides the young people with the additional opportunity to develope their attentiveness and auditory acuity, and gives them an incentive to eliminate unnecessary noise through control of their own movements and speech.

Two class procedures in particular aid the development of listening skills. The very quiet ringing of a bell to gain attention requires that the young people create a sensitivity to quiet, gentle, unobtrusive sounds. In group lessons or gatherings, making sure that everyone who wants a turn gets a turn, promotes attentiveness to the end of the lesson. The sensitive adult helps the young people extend the length of time they are able to listen, attend or concentrate by matching materials and presentations to their sensitive periods and by not asking them to listen, attend or concentrate far beyond their capacity to do so.

In general, materials are introduced with as few words as possible. When words are relatively few in number rather than being part of a running babble, they are attended to much more closely.

In the area of Practical Life, there is the whole section on elementary movements in which one calls attention to the sounds materials make when they are picked up, moved and set down. With these exercises, young people are helped not only to control and refine their movements, they are also helped to increase their auditory acuity. In other areas of Practical Life, attention is called, whenever appropriate, to the sound of material. For the snap frame one might say, "Listen, did you hear it snap?"

Lessons in grace and courtesy may include how to talk softly but audibly with someone, how to listen, how to wait, how to interrupt, etc.

Within the sensorial materials the sound cylinders provide opportunities for distinguishing like and unlike sounds and for distinguishing the relationships between unlike sounds. The language lessons that go with the sensorial materials (e.g., loud, soft, loud, louder, loudest, soft, softer, softest; high, low;

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large, small, etc.) give additional mental tools for dealing with the concepts embodied in the materials. These language tools enable the young people to verbally explore the concepts and to compare and categorize in more precise fashion.

In the language area listening to stories and discussions, name lessons and oral phonetic analysis all contribute to the development of listening skills.

Within the Montessori environment the freedom to move and the freedom to talk are very important components in providing a relaxed atmosphere in which individuals are free to function in an optimum way. People under constraint (e.g., "sit still at your desks and don't talk") develope physical tensions and tend to "close down" or "turn off" as a means of self protection. This means decreasing sensitivity or decreasing sensory imput. The freedom that Montessori students have to move means that they do not have to develope and/or retain physical tension. This, in turn, means that they are more relaxed, more open and sensitive and that they have more energy available to attend to their job of self-development.

People who are not free to talk often talk compulsively at times when the talking restriction is lifted. And frequently, the energy and resentment of not having been allowed to speak is what comes tumbling out of the mouth at those times. The freedom to speak or not to speak, to work sociably with others or to work alone allows the young people in a Montessori setting to work naturally with their needs and interests, conserving their energy for self-development, rather than spending it in bottled up and then spilled over resentment and frustration. These freedoms and resulting conservation of energies are accompanied by openness and cooperation which means that the young people are more ready to, and have more energy available to listen, attend and concentrate on those things which the adult and the environment offer for his or her self-development.

Specific demonstrations of aids to listening include:

1. Sitting symmetrically, that is, balancing both halves of the body whether sitting in a chair or cross-legged on the floor.
2. The adult sets an example by listening intently.

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3. The adult averts his or her eyes so that attention is on the auditory sense rather than the visual.
4. The young people sit in a concentric semicircle so that eye contact is not easily made during the listening time.

> Silence "activities" serve to intensify listening skills in a very special way. The absence of sound or near absence, is not only restful, it also serves to reveal soft sounds not usually audible. The degree to which young people relish the sweetness of these silent moments may indicate their progress toward normalization.[1]

Specific games are used to help children focus their attention on their sense of hearing, to sharpen their sense of hearing, to prepare them for the Silence Game and to help them focus on musical listening experiences. Different categories of listening games include localizing sounds, measuring acuity of hearing, recognition of timbre and body movements which make noise. Each will be described in turn.

In games of localizing sounds the participant is blindfolded. Another person moves away from the first person while quietly ringing a small bell. The blindfolded person indicates the direction in which the sounds of the bell moved. When this has become too easy and a new point of interest is needed, the person with the bell may walk quietly to a place in the room and then ring the bell once very softly. This may be close to, far from, in front of, next to, behind or directly above the blind-

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folded person. The latter is the most difficult to distinguish.[2]

The blindfolded person may be asked how far away the sound is produced: close by, near the window, in the cloak room, in the hall, etc.[3]

The blindfolded person may walk following the sound of a bell, recorder, human voice, etc., while the source of the sound continues to change position. A variation on this is to have the blindfolded person stand still while the sound is being produced and, when the sound stops, the blindfolded person moves toward the place from which the sound originated.[4]

A ticking clock may be hidden in the room when the class members are outside. When they return they are asked to find it. This will, of course, require that all be very silent.[5]

An individual's ability to hear differences in sounds may be informally tested with the sound cylinders which are a regular piece of the Montessori sensorial apparatus. The ability to hear soft sounds may be tested informally with a soft bell or a ticking clock. One person sits blindfolded on a chair. Another person who rings the soft bell or holds the ticking clock approaches or moves away from the blindfolded person who indicates when he or she begins or stops hearing it. A variation on this

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game is to have the adult stand ten meters from a small group and whisper the name of an object in the room, and then say, "Go find it." Those who have heard will go to get the object. They then stand with the adult who goes one meter closer to the remainder of the group and repeats the exercise, naming a different object. Repeat until all have heard.[6]

Games for distinguishing timbre are limited only by the creativity of the people involved in the class. The Mystery Sound Game is the first of the timbre exercises introduced in the class. In this game objects are identified by their sounds. This is analogous to the stereognostic bags where objects are identified by their feel. The leader introduces several familiar objects and demonstrates the sounds made by each. Then the children close their eyes and the leader uses one of the objects to make a sound which is then identified by the group. As the children become proficient in their identifications it will be necessary to make it more difficult in order to keep the interest going in this activity. Objects may be used which are first shown to the group but whose sounds are not demonstrated. Later objects may be used which are not first shown to the group.[7] Examples of objects and sounds to use are:

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-shake keys on a key ring
-run a fingernail along the teeth of a comb
-flap, tear or crumple paper
-pour water
-pour rice
-tap a pencil
-ring a bell
-screw a lid on a jar

Variations on the Mystery Sound Game include identifying the members of the group by their spoken or singing voices or by their footstep. Voices of men, women and children may be recorded and identified. The singing voices of men and women may be recorded and identified as soprano, alto, tenor or bass.[8] The Mystery Sound Game leads naturally to the study of musical instruments. This will be discussed later in this chapter.

Another exercise involves listening to the sounds in the environment. The participants sit silently for a few moments while they listen to the sounds around them. Afterwards they discuss what they heard. Some of the participants may wish to make a list of what they heard either with the moveable alphabet or in writing. This may also be done near an open window in which case the group members will attend to the sounds coming from outside. Outdoor noises could also be recorded and played in the classroom. Noises could include church bells, wind, rain, hail, thunder, birds, waves on the beach, etc.[9] For those who are interested this could lead to

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the Audubon record series on bird calls.

A Listening Walk gives the participants a wider scope for their listening activities. The walking is done as silently as possible. Afterwards there is discussion about what was heard and those who wish may make a list of the sounds with the moveable alphabet or in writing. The children who are able to walk in absolute silence may be taken on longer excursions outside the classroom into other parts of the building and outside.[10]

Many people are unaware that their body makes noise when they move it. As one of the preparations for the Silence Game it is important to help children become consciously aware of these movements and the noises they produce. In the Body Noise Game, the participants shut their eyes and the leader audibly moves a part of his or her body. The participants then guess which part was moved or what was done.[11] Examples of movements for the Body Noise Game are:

-scratch head
-tap fingers on hard surface
-slide shoe on hard floor
-blow nose
-clear throat
-yawn
-rub hands together
-swallow

All of the above mentioned games help children focus their attention on their sense of hearing as well

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as aiding them in the development of self-control. When they have developed an ability to both sit and listen, then they may be introduced to the areas of music history and literature and the instruments of the orchestra. If a young person has not developed the necessary self-control or interest in listening, then lessons in music history and literature, etc., are likely to become unpleasant experiences and negative feelings about music are likely to develop.

There are specific rules for large group activities in a Montessori class. The children are free to come or not to come, as they choose. If they don't come they must work quietly in another area of the room. In any case, those who do not participate must be prepared not to interfere with the large group activity. Older children in their third year in the class often feel that they do not have to come. If they choose to come it means that they are going to be helpful or be a model of how to behave in a group lesson.[12]

Preparation on the part of the adult for the lessons which follow is important. However, the most cruicial factor is the adult's attitude toward the lessons. There are many things in a Montessori classroom that are "caught" rather than taught. The adult's attitude toward music literature and history and the study of musical instru-

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ment is "caught" by the children just as is the adult's attitude toward math, spelling, grasshoppers, etc.

The Instruments of the Orchestra

When presenting the instruments of the orchestra it is preferable to have real instruments presented by people who play those instruments well enough for the sound to be enjoyable. Many high school students are proficient enough to come and demonstrate. They must be willing to let the children touch the instrument and interact with it. They should know some of the songs the class knows so the class can sing with the instrument, and they should play some of the same pieces which are on the records or tapes kept in the classroom. Before the person comes to the class they must be coached as to the way they are to behave.[13]

If it is impossible to have a live presentation of an instrument, then a record or tape recording may be used. Unfortunately, most records are either too fanciful or have a narration. Dr. Montessori found that when information is presented at the right time and in the right manner it is not necessary to sugar coat the information or make it "cute" or entertaining. She found that young people naturally wanted to learn and were interested in information for its own sake. Dr. Montessori also

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found that it was important to isolate whatever was being studied. For example, if an animal were being introduced, then a picture of the animal would be presented by itself without grass, bushes, trees, flowers, birds, clouds, etc. Only the animal would be pictured on the card. This is called "isolation of the difficulty". It helps young people to focus their concentration on the subject of study. After an animal can be recognized and named, it may be pictured in its natural habitat.[14]

To isolate the difficulty when presenting the sound of a musical instrument it is necessary to obtain a record that has no narration and features only one instrument playing at a time. At the present time the only recording available which can be used as it is without having to extract sections of it on tape is the RCA recording, "The Instruments of the Orchestra". It is performed by the National Symphony Orchestra (LES6000 stereo, LE6000 monoral). The record has pictures and information about musical examples and tells about other sources of examples.[15]

A two record set which has good musical examples is, "Milton Cross Explains the Instruments of the Orchestra" (Ottenheimer Publications 1958 CAB4021). An excellent booklet comes with this record which has a picture of each of the instruments demonstrated along with

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information about the instruments. When the Milton Cross records are used it is necessary to tape record the individual instruments so as to leave out the narration. The records may be used as they are later when instrument families are introduced.

A picture of the instrument being studied is always presented with the experience whether a live presentation is being given or a record or tape is being used. It is also good to have pictures which show the instrument being played by a person so that an impression is given as to the way a sound is produced on the instrument. One of the ways the young people may be active during the instrument presentations is to imitate the motions necessary for playing the instruments, but without sound. The pictures also give an idea of the relative sizes of the instruments. Unfortunately, most picture sets show only men as the instrument performers.

The choice of instruments to be presented follows the principle of greater contrasts to lesser contrasts; that is, the instruments presented first will have the greatest possible contrasts. After three widely contrasting instruments have been presented in isolation on three separate days, the three may be brought together for a three period lesson.[16]

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The first period of the lesson will consist of a short review of the information that had been presented previously. The sound of each instrument is presented along with its picture. When any given instrument is being played only its picture is in view.

In the second period of the lesson all three pictures are in view at the same time and their names are reviewed. The leader tells the children to listen all the way to the end of the example which will be played; then, if they think they can find the picture, they are to raise their hand. One of the participants indicates the picture of the instrument that was played and the leader responds with the name of the instrument.

The group has arrived at the third period of the lesson when the participants begin giving the names of the instruments as well as indicating the correct pictures.[17]

Following a successful experience with the three period lesson, three other contrasting instruments are presented individually on separate days and then combined in a three period lesson. This is continued until all the instruments of the orchestra have been presented.

Examples of the sounds of the instruments should be available for individual choice in the classroom. Each example must be clearly marked with the picture and name of the instrument. This may be done most easily with

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cassette tapes. Whether records or tapes are used, the children will need to have a presentation on how to handle records, tapes, the record player and the tape recorder.

Other examples of the individual instruments should be available in the classroom music library. First should be examples that are unaccompanied; later examples may have accompaniment. All examples should be labeled as to name of piece and composer.

Before proceeding to a study of instrument families, science experiments may be introduced which illustrate the principles of the production of sound of the various instruments used in the orchestra. There are four basic ways in which musical sounds or vibrations are produced. They are striking, plucking, sliding and blowing, all of which may be illustrated with instruments which may be homemade. Each musical instrument makes its characteristic sound or sounds by utilizing one or more of these four basic ways. The instrument families and their corresponding method of tone production are:

String family - plucking and sliding

Woodwind family - blowing

Brass family - blowing

Percussion - striking

Science experiments dealing with the production and/or transmission of sound are listed in Appendix II.

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The two record set entitled "Milton Cross Explains the Instruments of the Orchestra" mentioned before provides a good introduction to the instrument families of the symphony orchestra. Each instrument family should have its own box of pictures of individual instruments.

When several young people have become familiar with the four instrument families, then card material showing the entire symphony orchestra may be introduced. Ideally, the seating plan used should be that of the orchestra the young people are most likely to see in a live performance. If that is not possible then a "typical" orchestra layout in Figure 2 may be used.

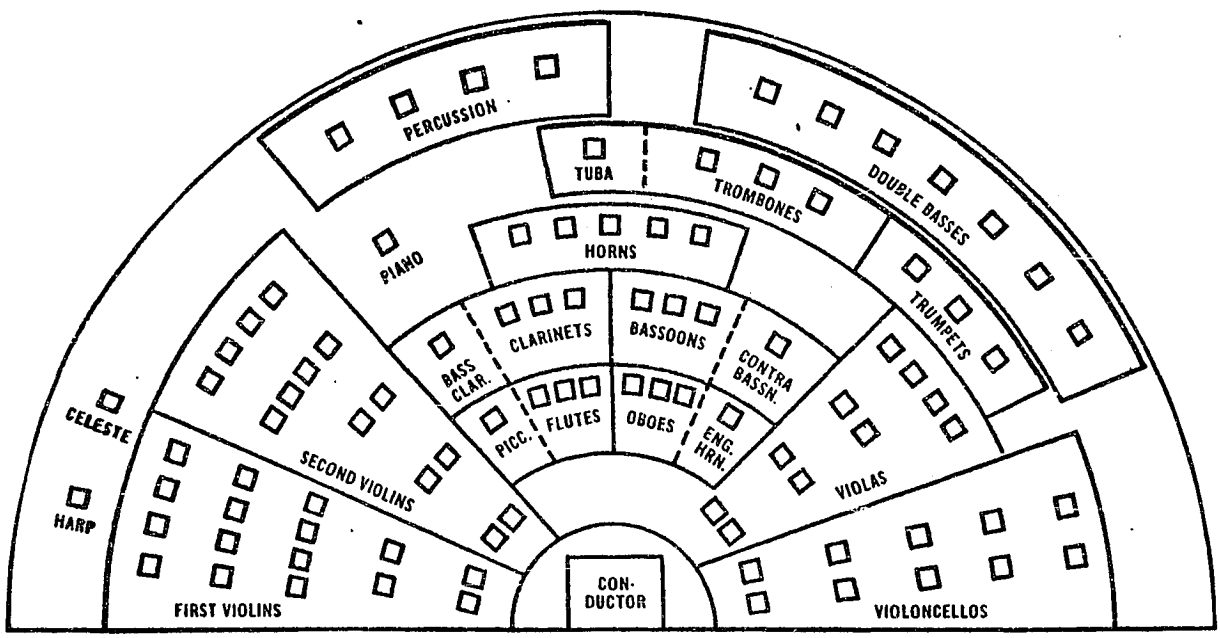

Figure 2. Ernest LaPrade, The Instruments of the Orchestra, included with the two record set: "Milton Cross Explains the Instruments of the Orchestra".

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The pattern of the orchestra is drawn on a two foot by three foot eight inch board or piece of cardboard. The names of the instruments are not written on the board. A smaller control chart must accompany the set on which the names are written. The instrument pictures are on two inch by one and one-half inch cards. There is one card for each square on the chart in Figure 1 (ninety-two instruments plus one conductor). The activity consists of setting the instrument pictures in their correct space on the board. At first the young people will use the control chart to guide their placement. Those who are especially interested in this activity will learn the placement so well that they will use the control chart only to check their work after they have completed the layout.

Music of the symphony orchestra repetoire should be available in the classroom music library. Each piece should be clearly labeled with its name and composer. Individuals may select records and listen to the music. Occasionally, pieces may be played when children are engaged in other activities; however, there is so much of this "passive" listening in our culture that it does not need to be reinforced. Later, one can give the name of the piece and the composer and a little about their lives.[18]

At some point other instrument groupings should be introduced such as the concert band, the marching

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band, string quartets, woodwind quintets, jazz bands, etc. The introduction of non-western instruments may be tied in with geography lessons.

The classroom needs to be equipped with resource material on musical instruments, their histories and diagrams with labeled parts. In addition, the adult should have a collection of short write-ups on each instrument as a ready reference when introducing the individual instruments. All of this material should be available to readers who wish to find out more about the instruments. Some of them may wish to write their own "Who Am I" stories for their classmates to enjoy.[19]

Music History and Appreciation

This section of the music work in a Montessori class deals with the study of style in different eras of music history and of different composers. It follows the principle of beginning with wide contrasts in style and progressing to finer and finer distinctions. Isolation of the difficulty has been achieved in this section by having all of the pieces performed on the piano. The material for this study consists of piano recordings entitled "Music Through History" which were planned and performed by pianist and Montessorian, Martha Bradon Jones, in consultation with Miss Margaret E. Stephenson, Director

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of Training at the Washington Montessori Institute.[20] The recordings were produced during the 1970's in cooperation with the North American Montessori Teachers' Association.[21]

There are three different series within the set of recordings. In the first series, each record side has three pieces of widely contrasting styles. In the second series each record side has three pieces from one period of history. In the third series, each record side has three pieces by one composer. For a listing of the contents of each series see Appendix III.

The procedure for introducing any of the musical examples in Series One is as follows:

a. Give the full name of the composer, where and how long ago he or she lived rather than birth and death dates.
b. Show a picture of the composer and give a short statement about an important part of the composer's life which will draw the interest of the class. This introduction should be short because long introductions interfere with listening. One should not get into a psychological analysis of the composer's personality.
c. Relate the new to the familiar by getting the flag of the composers country of origin and the wooden piece from the appropriate political geography puzzle map.
d. Name the piece of music and play it.
e. Talk about the music. Relate the music to the participants in terms of their own selves by asking, "How did the music make you feel?" If they have trouble finding words you can help by supplying some. "Kabalevsky's 'A Little Joke' is described as funny, a giggle. It makes me feel like giggling. Does it you?"
f. Play the music again if interest allows.

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g. Repeat the name of the piece and the composer.
h. Show the young people where the music is kept so they may listen to it at any time during regular work periods.

Repeat the above procedure for each of the three pieces on one side of a record in series one on different days. After the young people have had the opportunity to become familiar with each piece individually, then proceed to the three period lesson.[22]

In the first period, play each piece and give its name, the name of the composer and how long ago the composer lived. For the second period, play a piece and ask, "Was that the 'Bouree' by Bach or 'The Little Joke' by Kabalevsky?" In the third period play a piece and ask for its name and the name of the composer.[23]

Pictures of the composers should be kept in the classroom environment along with brief, interesting biographical information and a list of references which the older children may use to do their own research on composers.

The second series of records deals with music from different periods of music history: Baroque, Classical, Romantic, Modern, Impressionistic and United States Contempory Music. Pieces from the first series of records which illustrate the above are used as appropriate with the second series.

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In the third series attention is focused on different pieces by the same composer. Pieces by those composers from the first and second series of records are used with the third series.

In the explanatory material that accompanies the records, Martha Bradon Jones says that three to six year olds can develop a sentiment for different musical styles. It is clear from experience that if young people are consistently and pleasantly exposed to this approach to music history they will develope the ability to recognize and name styles of music and composers. This writer visited a Montessori class directed by Sanford Jones while he did a group lesson with six, seven and eight year olds. He played three pieces for them that they had never heard before. They identified every one of the composers because they recognized their style.[24]

In addition to the piano recordings there should also be source material for the symphonic sounds of various composers available in the classroom. These may be put on cassettes. One composer could be featured each month. Pick the composer's birthday month. A variety of classical music, contemporary sounding music and music from different cultures around the world should be included in the music library in the classroom.[25] "Program notes" should be available with the records or cassettes.

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Every opportunity should be taken to relate music to nationalism, to geography (e.g., Smetana - "The Moldau"; Copland - "Appalachian Spring"' Borodin - "On the Steppes of Central Asia"; etc.) and to natural phenomena (e.g., storms depicted in Rossini's "William Tell Overture", Beethoven's "Sixth Symphony", Grofe's "Grand Canyon Suite").

It is interesting to note that in the early days of the Montessori movement, Dr. Montessori felt that a knowledge of composers should be approached only through motor experience. A translation of one of her 1931 lectures reads as follows:

> Another interesting experience is connected with music. It is clear that we have not been able to carry it out in such a wide manner as that of writing. Musical knowledge, mark this, is based on movement, and yet there is nothing more sensorial than movement. Now rhythmical exercises are carried on in a very large scale. These rhythmic exercises aim at carrying on movement in relation to music, but I am speaking of a different point of view from this, quite a different point of view. The point is that the child can enjoy and recognize, and even know the names of certain musical authors after he has acquired his music from motor ways, and not through sensorial. I am speaking of musical knowledge. If you wish to teach a child of four, four and a half, five, to recognize the forms of music and their authors, you would have before you a problem of knowledge. You want to give this child such a knowledge of music that he would be able to recognize and understand the names of the authors of the music, and it is only possible at such an age for the music to penetrate the child by motor activity, so that rhythmic gymnastics is a means for arriving at musical knowledge, whereas we should otherwise find it impossible to give this child musical knowledge.

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> That is to say, we arrive at his intelligence at a much earlier stage, more effectively through motor activity, and it seems to us a perfect marvel, when we hear the little child of five come up to us and say, "Now I should like to hear something of Beethoven or Schubert". It certainly amazes one.[26]

The motor activity which she described will be dealt with more fully in the chapter on movement.

Children's Concerts

Anna Maria Maccheroni found that children were very receptive to sentiment and feeling in music. Dr. Montessori writes of Maccheroni's discovery in her book, The Montessori Elementary Material:

> The movement entitled "O Sanctissima," played by Miss Maccheroni one day by chance among the rhythmic exercises, is regarded by us as an introduction to musical audition. It will be recalled that the children had been accustomed to alter their style of marching on the floorline according to changes in the music. It had never, however, occurred to them to leave the line. When this piece was played they all crowded around the piano, motionless, thoughtful, absorbed; while two or three little ones fell to their knees and assumed various poses. This experience suggested to us the idea of "musical auditions," if you wish "concerts for children."
>
> Children, little by little to be sure, but no less admirably, enter into the spirit of music. After the numerous rhythmic exercises, as soon, that is, as they have mastered the problem of measure, almost any sonata is within their reach. They can handle not isolated movements merely, but whole pieces of music. The same is true of the auditions. At first, of course, it is better to select simply phrases; but gradually the children come to enjoy "the best music," joyfully recognizing the feeling which it expresses and which inspired it. Our pupils used to exclaim, for instance: "This piece is for weeping," "This is

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for prayer," "Now we must laugh," "Now we must shout," etc.

We cannot, however, insist too strongly on the need for the greatest possible care in the execution of the selections used. A child audience is a very special one. It demands something more than is expected by the average "intelligent audience." It is one in which musical intelligence must be developed. Our object must be the creation not merely of higher and higher grades of understanding, but also of higher and higher grades of feeling. In this sense, we can never do too much for the children. It is a task not beneath the dignity of the greatest composers, the most accomplished technicians. Indeed, any one of such might well esteem it a privilege some day to hear it said of his work that it aroused the first love for music in the hearts of one of these little ones. . . .

The following titles were all used successfully by us in our experiments. They are supplements to the "O Sanctissima" and a "Pater Noster."

A. NARRATIVES.

Trovatore: "Tacea la notte placida."
Lucrezia Borgia: "Nella fatal di Rimini e memorabil guerra."
Lucia di Lamermoor: "Regnava nel silenzio."
Trovatore: "Racconto di Azucena."
Sonnambula: "A fosco cielo, a notte bruna."
Rigoletto: "Tutte le feste al tempio."
Fra Diavolo: "Quell'uom dal fiero aspetto."

B. DESCRIPTION.

Beethoven: "Moonlight."
Boheme: "Nevica; qualcuno passe e parla" (Act II, prelude).
Aida, prelude as far as "Cieli azzurri."
Aida, "Marcia trionfale" (containing the motive of the scene to which it belongs).

C. SENTIMENT AND PASSION:

Gaiety:

Traviata: "Libiam nei lieti calici."
Sonnambula: "In Elvezia non v'ha rosa fresca e

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bella al par d'Alina."
Traviata: "Sempre libera deggi' io folleggiar."
Faust: Peasant song, "La vaga pupilla."

Contentment:

Aida: "Rivedro le foreste imbalsamate."

Passion:

Traviata: "Amami Alfredo."
Lucrezia Borgia: "Era desso il figliuol mio."

Anguish:

Lucrezia Borgia: "Mio figlio, ridate a me il mio figlio."
Lucrezia Borgia: "Infelice, il veleno bevesti."

Threat:

Cavalleria Rusticana: "Bada, Santuzza, schiavo non son.

Allurement:

Barbiere di Siviglia: "La calunnia e un venticello."
Iris: "La Piovra."

Comic:

Barbiere di Siviglia: "Pace e gioia sia con voi."
Fra Diavolo: "Grazie al ceil per una serva."

Invitation:

Faust: "Permetteresti a me."
Boheme: song of Rudolph, "Che gelida manina."

Anger:

Sonnambula: "Ah perche non posso odiarti."

Sorrow of sacrifice:

Boheme: "Vecchia zimarra senti."

Meditation:

Mendelsohn: Romances.
Mozart.
Chopin.

D. FOLK SONGS AND DANCES.[27]

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Montessori spoke of the importance of concerts for children in the 1931 training course in London. The translator expressed Dr. Montessori's thoughts on the subject as follows:

> Now musical education cannot be done by these bells, and we cannot say that these bells provide a method for observation for sounds in the environment. We could only assert this if music is made in the child's environment. The fundamental thing is that there should be music in the child's environment, just as there does exist in the child's environment spoken speech. In the social environment the child should be considered and music should be provided for him. This problem of the child's musical education is therefore a vast one. There are certainly rhythmic exercises that the child can do, but this is not enough. There should be concerts for the child and so on. We come to a great lack in the child's environment which should be filled. The adults have taken good care of themselves, and concerts are provided for them, and often there may be a notice on the door saying "children not admitted", whereas an organized musical environment is more necessary for the child than for the adult. We have already arranged concerts in Rome, but evidently the matter has to be further organized than it has been so far.[28]

Anna Maccheroni wrote about children's concerts in an unpublished booklet entitled, Biblioteca Musicale - Concerti Per Bambini (Music Library - Concerts for Children). Sanford and Martha Jones have very effectively put Maccheroni's writings into practice in numerous concerts in different parts of the United States. They have given two-piano performances for up to 200 children from ages three to ten. In lecturing about children's concerts, Sanford Jones has made the following recommendations:

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1. The children should already be familiar with the music to be performed. This means that they will have had lessons in which the concert pieces were introduced and discussed before the concert.
2. The children who attend the concert should be at a point where they can sit and listen for fifteen. to twenty minutes.
3. Part of the preparation beforehand should include information on concert etiquette. This includes when to talk and when not to talk and when to applaud and when not to applaud. Talking or applauding is, of course, not done while the performers are playing. Appropriate times for applause include:
    - when the performers appear on stage
    - after the completion of a piece
    - at the end of a suite of pieces (not after each piece in the suite)
    - at the end of the concert when the performers are taking their bows

    The adults who are in the audience must know these rules of concert etiquette as well as the children.
4. The children should arrive no earlier than ten minutes before the concert begins.
5. Parents and staff members should be in various places around the audience.
6. The program of the concert is beautifully and clearly printed in large letters on a posterboard which is set on the stage in such a way that it is visible to all parts of the audience. On the posterboard is written the names of the composers and the titles of each piece. Before each piece, one of the performers will point to the composer and title and have the audience read it with him or her. This helps prevent unnecessary rattling of programs during the concert, it avoids the difficulty of trying to find one's place in the program (a frustrating experience for one just learning to read) and it keeps concentration focused on the stage. After the concert, printed programs are handed out.
7. The total length of the concert should be no more than forty-five to fifty minutes.
8. The pieces to be performed should be choosen with great care. No piece should be longer than four minutes. The use of programmatic music (music that tells a story) is useful in that it helps give a focus to the attention during the performance. Some songs may be included with which the audience may sing along. These will be songs already known by the audience. If it is possible

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to give a focus to the listening, this should be done. For example, if the initial theme from the "Surprise Symphony" of Hayden is to be played, the performers can give a very short account about why the symphony was written and invite the audience to listen for the surprise.

9. The audience should be involved in several ways during the performance. At some point during the program, the children may be asked questions which have very obvious answers. They may read aloud the name of the piece and the composer before each piece. They may clap a rhythm and they may sing a song while the performer plays. This audience involvement will alternate with times in which only the performers on stage are active. After the program, the children who so desire should be allowed to greet the performers.
10. The concert must be structured in such a way that the experience is kept moving along. This means that all details of the concert must be carefully planned: how the audience will get in and out of the hall, how tickets are to be handled, how the programs are to be distributed at the end, what to do with coats, etc. Above all, the performers must have their music in perfect order so that once the performance starts there is no hesitation or time lost when moving from one piece to another.[29]

In addition, Anna Maccheroni suggests that for some pieces, the melody line be played alone first and then repeated with the accompaniment. She felt it important that children have the opportunity to hear a great variety of instruments and singing voices. If the children wanted to see the music they were hearing, then they could get the piece of music if it were in the school music library.[30]

Maccheroni's other suggestions implied a much more informal setting than a formal concert and sounded more like music lessons in which melodies, phrases,

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cadences, instrument dialogues and the weaving together of the different parts in trios, quartets and quintets would be studied with the help of student participation.[31]

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CHAPTER IV - FOOTNOTES

[1]Summary of student's papers following a lecture by Jean K. Miller on "Aids to the Development of Listening in a Montessori Environment", Montessori Training Center of Minnesota, Inc., St. Paul, Minnesota, February, 1979.

[2]Vittoria Fresco-Galeazzi, "Course on Music Education", lecture at the Sixth International Training Course at the Centro Internazionale Studi Montessoriani, Bergamo, Italy, Spring 1967.

[3]Fresco-Galeazzi, "Music Education", Spring 1967.

[4]Fresco-Galeazzi, "Music Education", Spring 1967.

[5]Fresco-Galeazzi, "Music Education", Spring 1967.

[6]Fresco-Galeazzi, "Music Education", Spring 1967.

[7]Fresco-Galeazzi, "Music Education", Spring 1967.

[8]Fresco-Galeazzi, "Music Education", Spring 1967.

[9]Vittoria Fresco-Galeazzi, "Course on Music Education", handout accompanying lecture at the 11th International Training Course at the Centro Internazionale Studi Montessoriani, Bergamo, Italy, trans. Sr. Mary Aloyse Gerhardstein, R.S.M., January 24-27, 1972, p. 7.

[10]Sanford Jones, music workshop sponsored by the Montessori Development Foundation, Cleveland, Ohio, July, 1974.

[11]Martha Jones, music lecture sponsored by The Montessori Foundation of Minnesota, St. Paul, Minnesota, Winter 1975.

[12]Elizabeth G. Hall, music lecture from "Children's House Training Course" (2½ to 7 years old) 2nd course of the Montessori Institute of Cleveland, Cleveland, Ohio, March, 1979.

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[13]Hall, music lecture, March, 1979.

[14]Mary Raudonis, lectures on sensorial material from the first course of the Montessori Institute of Cleveland, Cleveland, Ohio, Fall 1977.

[15]Hall, music lecture, March, 1979.

[16]The three period lesson of Sequin is used for naming objects or qualities. In the first period names are given ("This is red. This is blue. This is yellow."). In the second period the object or quality is asked for by name ("Show me yellow. Show me red. Show me blue."). The second period takes the longest amount of time. Ingenuity on the part of the leader is required to vary the second period and keep it interesting ("Put the red one in my hand. Put the blue one in this corner of the table. Put the yellow one on top of the blue one."). If the person being taught is not successful in the second period, then the leader knows he or she went too quickly from the first to the second period. The leader then returns to the first period of the lesson. If the leader moved too quickly into the third period, he or she simply returns to the second period. At all times the leader proceeds in such a way that the person being taught has the greatest possibility of success. Success generates positive feelings. Positive feelings associated with an activity increase the possibility that the activity will be choosen again.

[17]Hall, music lecture, March, 1979.

[18]Hall, music lecture, March, 1979.

[19]"Who Am I" story. Example: I am a member of the woodwind family. I used to be made of wood but now I am made of metal. A player blows across my mouthpiece to get a tone out of me. If you can get a musical sound by blowing on a pop bottle, then you can get a sound out of me. Who am I? Answer: flute.

[20]Washington Montessori Institute, 2119 "S" Street, Washington, D.C. 20008.

[21]North American Montessori Teachers Association, 2859 Scarborough Road, Cleveland Heights, Ohio 44118.

[22]Hall, music lecture, March, 1979.

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[23]Hall, music lecture, March, 1979.

[24]Observation of a class of six to eight year olds at New City Montessori School, Washington, D.C., Spring 1970.

[25]Hall, music lecture, March, 1979.

[26]Maria Montessori, "Sound-Bells", lecture #18 at the 17th International Training Course, London (unpublished manuscript, from AMI's private collection), May, 1931, pp. 11-12.

[27]Maria Montessori, The Montessori Elementary Material, trans. by Arthur Livingston, (Cambridge: Robert Bentley, Inc., 1965), pp. 376-379.

[28]Maria Montessori, lecture #13 at the 17th International Training Course, London (unpublished manuscript, from AMI's private collection), 1931, p. 9.

[29]Sanford Jones, music workshop, July, 1974.

[30]Anna Maria Maccheroni, Biblioteca Musicale - Concerti Per Bambini, (unpublished manuscript, from AMI's private collection), pp. 3-4.

[31]Maccheroni, Biblioteca Musicale, pp. 4-6.

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CHAPTER V

SENSORIAL EAR TRAINING WITH THE BELLS

Introduction

One of Montessori's unique contributions to musical development in children is a sensorial approach to ear training and music theory. Following the sensorial principle of isolation of a single quality, the study of pitch is taken up separately from the study of rhythm. Chapters V and VI have been devoted to pitch work while Chapters VII and VIII deal with rhythm.

The sensorial education of pitch is undertaken with the Montessori bells. The bell material that is available from the Dutch manufacturer (Nienhuis Montessori Holland, 14 Industriepark, P.O. Box 16, Zelhem [Gld.] - The Netherlands, Europe) includes the following:

> Two green boards, 60 x 22 cm, which have 8 white and 5 black painted spaces. (Figure 3) These spaces are the same size as the base of the bells and are located toward the front of the boards. The white spaces are arranged so that they show the relationships of the pitches in the C major scale. The black spaces are between the white spaces. (The original size of one long board was 115 cm by 25 cm.[1])
>
> 26 bells: 12½ cm height, 8 x 10 cm base, green felt under base. 8 have a white stem and base. There is one each for the sounds of the C major scale (c, d, e, f, g, a, b, c). They serve as a control

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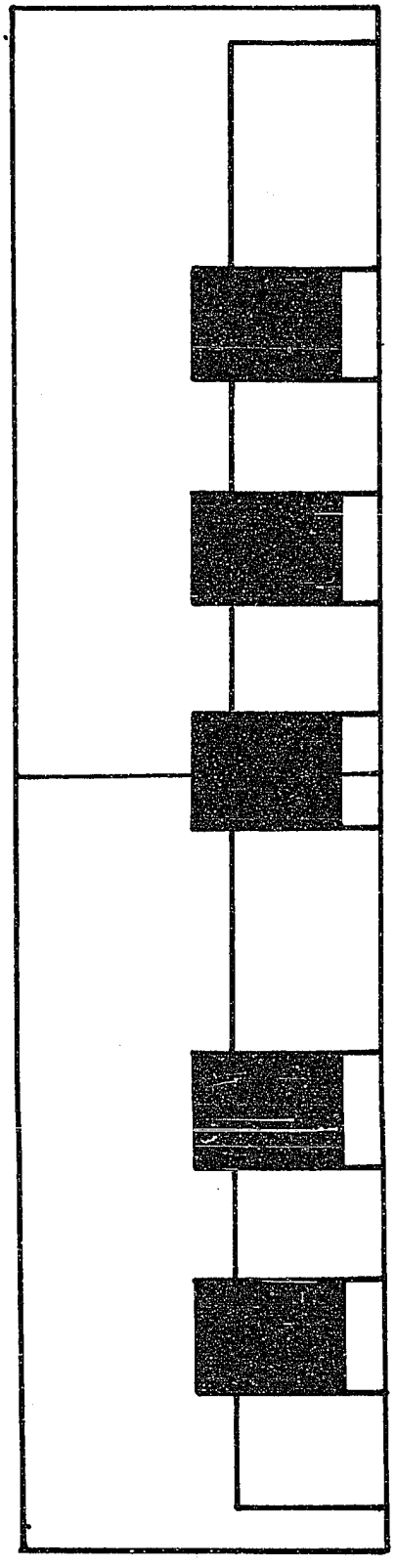

Figure 3. Two green boards which have
8 white and 5 black painted spaces.
The bells are placed on these boards
which are kept on top of the bell cabinet.

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of error and are placed behind the white spaces on the green boards.

5 have a black stem and base. There is one each for the sharp and flat sounds of the notes found between the notes of the C Major Scale as represented by the white bells. Their sounds are $c^{\#}$, d ; $d^{\#}$, e ; $f^{\#}$, g ; $g^{\#}$, a ; $a^{\#}b$. They serve as a control of error and are placed behind the black spaces on the green boards. 13 have a brown stem and base. They are identical in tone to the white and black bells. Their sounds are c, $c^{\#}d$, d, $d^{\#}e$, e, f, $f^{\#}g$, g, $g^{\#}a$, a, $a^{\#}b$, b, c'. The brown bells which pair with the white bells are placed on the white spaces of the green board. The brown bells which pair with the black bells are kept on a shelf. (Figure 4.)

Note: Older sets used to have 28 bells, 8 of which were white 6 were black and 14 were brown. The extra tone was the high $c^{\#}$.

3 Mallets--kept on the right end of the bell cabinet.

1 Damper--kept on the right end of the bell cabinet.

One green board, 60 x 22 cm, on which are painted in black, 5 lines of the staff, one ledger line and 8 black circles placed on the staff to show the arrangement of the notes of the C Major Scale. The numerals 1 to 8 are painted from left to right on the black circles. (Originally the black circles were recessed in the boards.) (Figure 5.)

Eight black disks with a diameter of 2½ cm which have the numerals 1 to 8 painted in white on one side and the letters c, d, e, f, g, a, b, c' on the other. The correspondence is as follows:

1	2	3	4	5	6	7	8
c	d	e	f	g	a	b	c'

Two green boards 60 x 22 cm, each having the five lines of the staff and one ledger line. (Originally, one green board had ledger lines at either end for middle c while the other board had no ledger lines.) (Figure 6.)

Forty white disks, 5 each of the letters d, e, f, g, a, b; 10 of the letter c. The disks have a diameter of 2½ cm. (Figure 7.)

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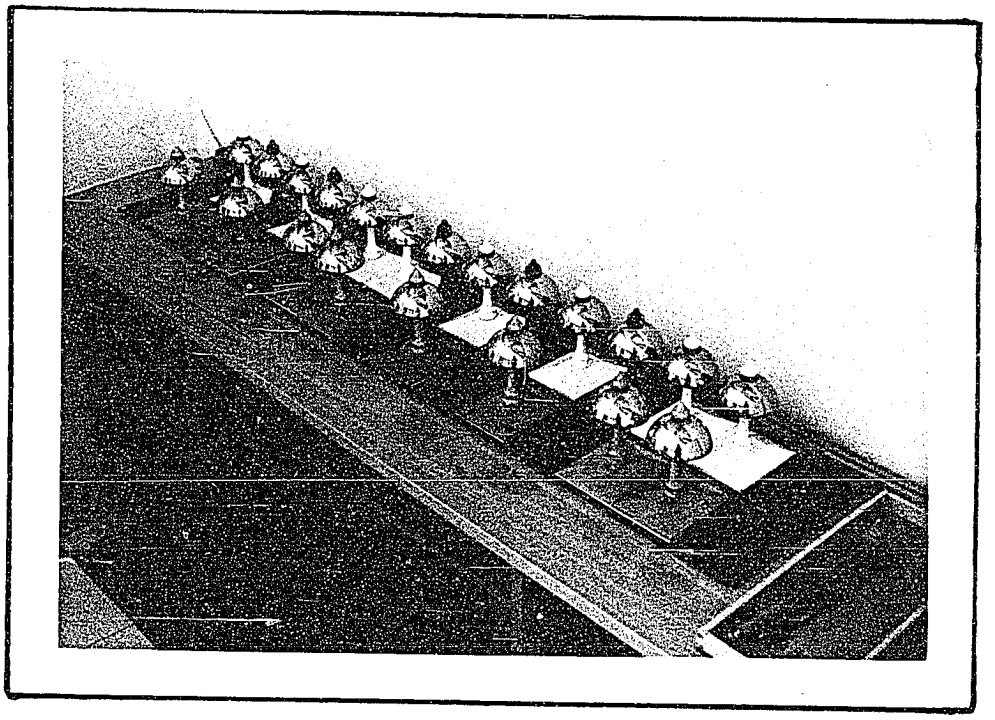

Figure 4. Bells with white, black and brown bases on the two green boards on top of the bell cabinet. The brown bells which match the black bells are kept on one of the shelves.

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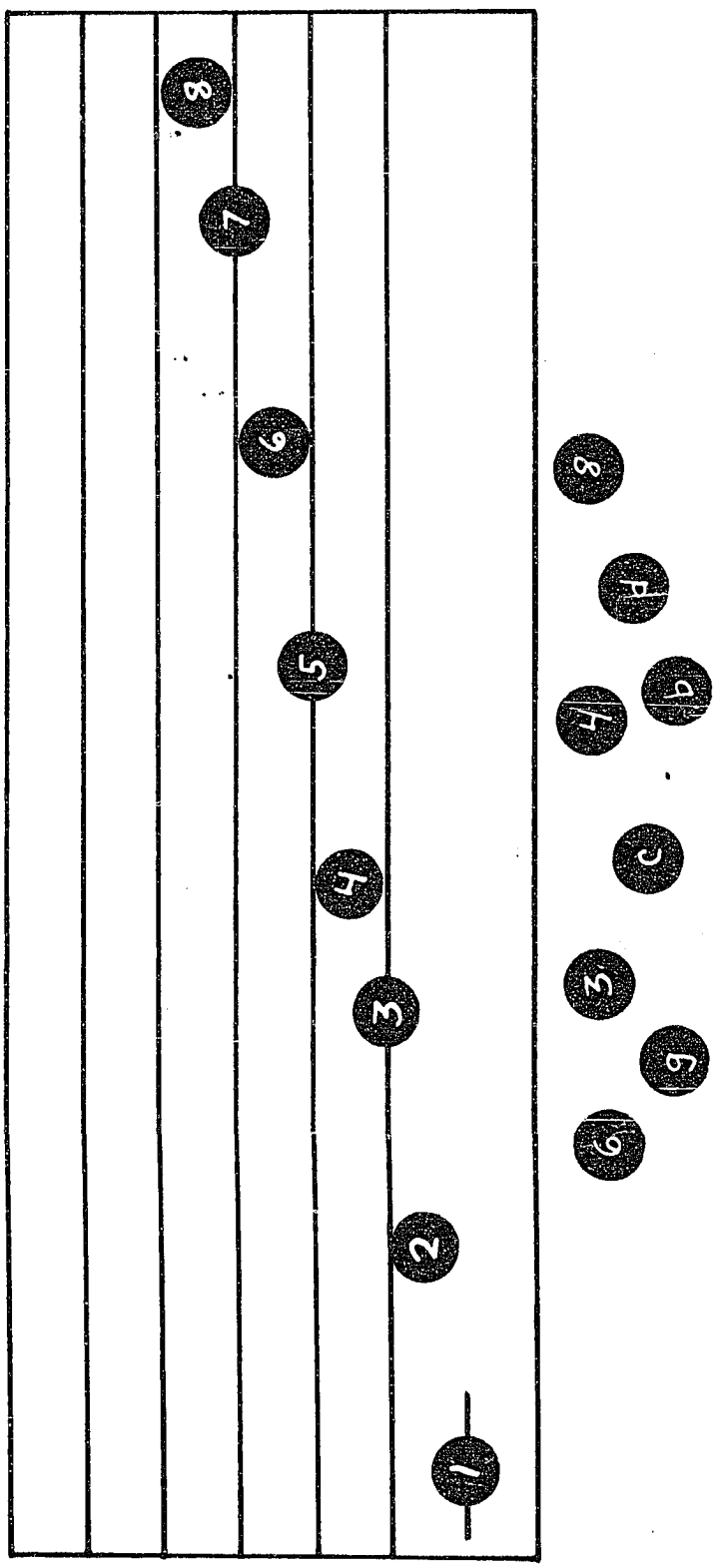

Figure 5. Staff board with the numerals one to eight painted on eight black circles. The eight black disks have numerals on one side and letters on the other.

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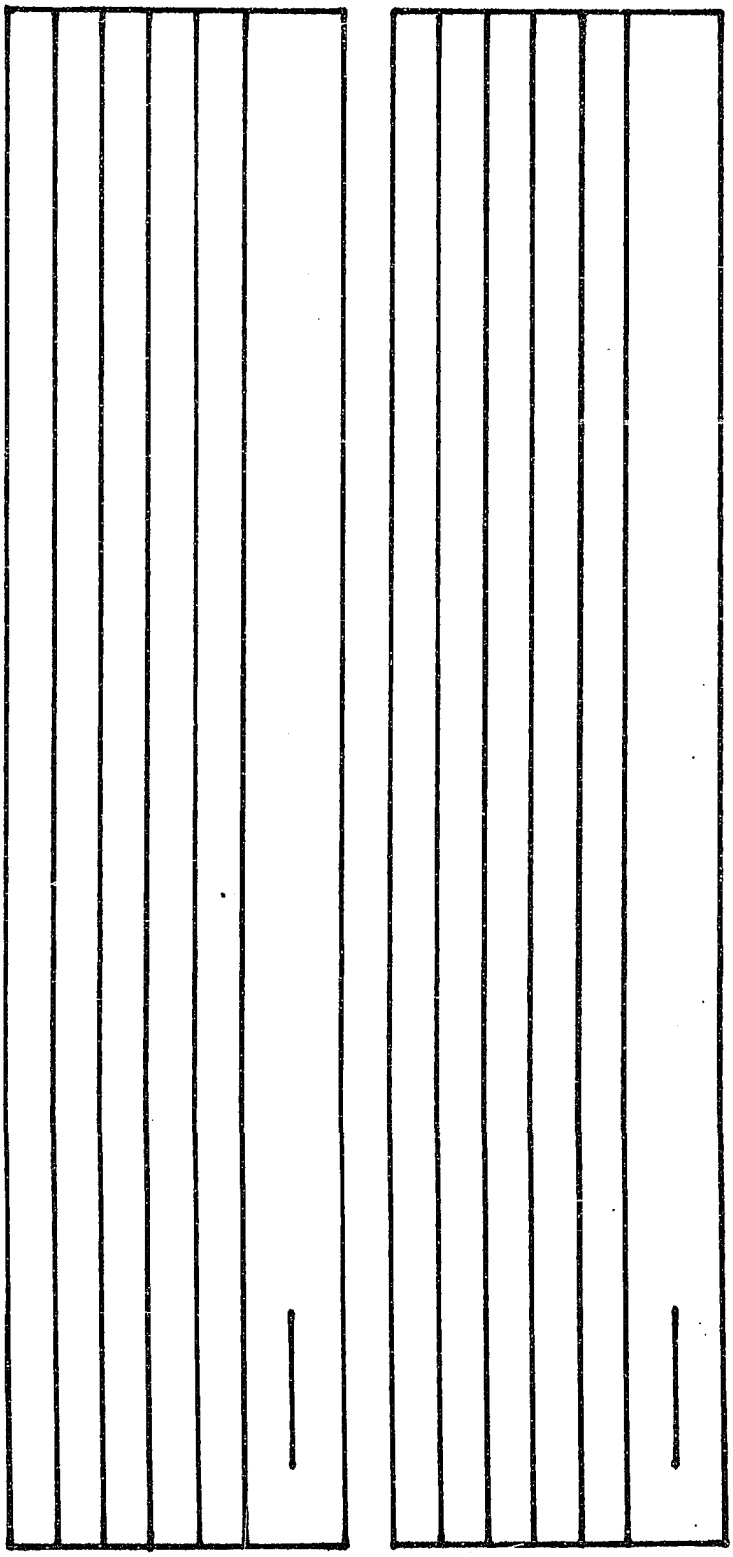

Figure 6. Staff boards as they are manufactured today.

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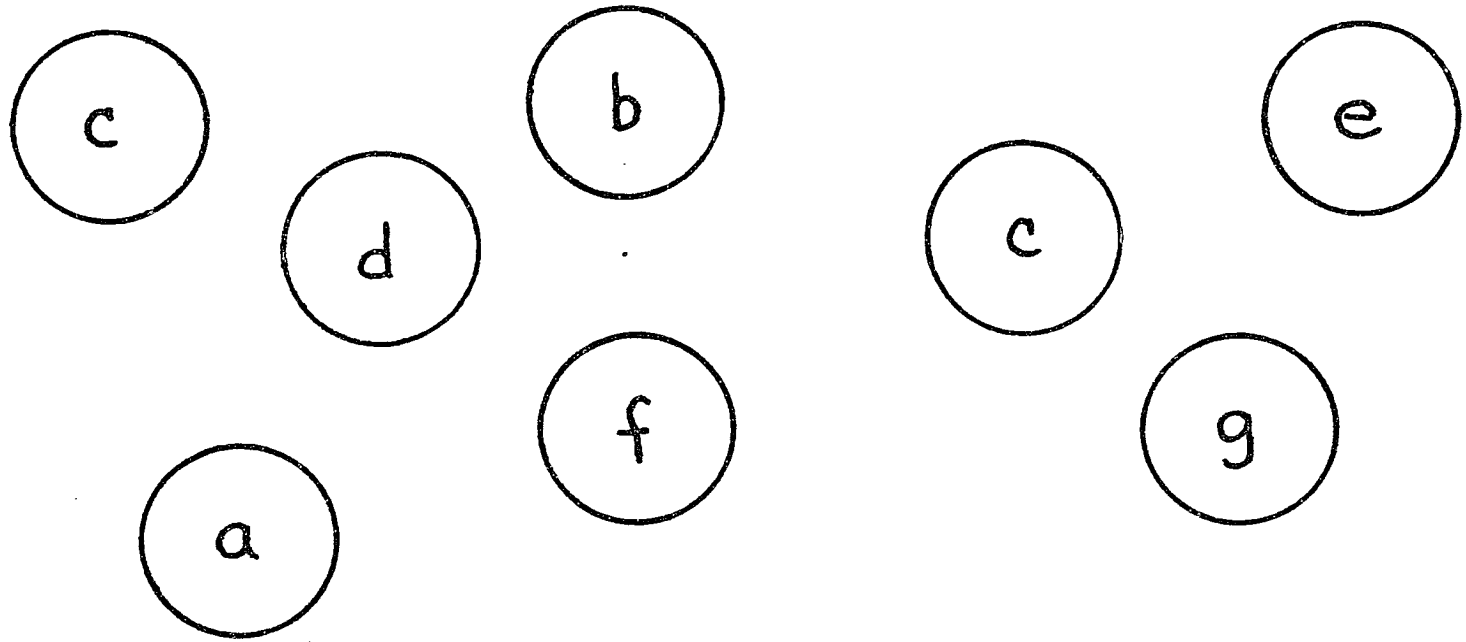

Figure 7. White disks for use with the staff boards in Figure 6.

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Wooden musical signs (Figure 8):

1 G clef	2 sharps
1 F clef	2 flats
2 bar lines	2 naturals
2 holds	
2 crescendo, decrescendo signs	
20 black discs	
20 black discs--donut shaped	
20 black dots	
20 notes stems	

20 black disks with sharp names on one side and the corresponding flat names on the other (Figure 9). Correspondence is as follows:

c♯	d♯	f♯	g♯	a♯
d♭	e♭	g♭	a♭	b♭

17 white boards with note patterns for playing and singing.

The bells have the same characteristics as the sensorial materials for the visual and tactile senses. First of all they provide for isolation of one quality which in this case is pitch. This is accomplished by having the bells all appear to be uniform. The only variable is pitch. (The underside of the bells have more or less metal so that the bells have different pitches.) Maccheroni said, " . . . each bell gives a single musical note; and this is important because in everyday life one hardly ever has an opportunity of hearing an isolated note . . . "[2] Our culture gives children very little opportunity to hear one pitch at a time. The bells help children fill in this important area of listening with regard to pitch.

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Figure 8. Wooden musical signs.

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Figure 9. Black disks with sharp names on one side and flat names on the other.

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The bells come in a double series so that the sensorial exercises of pairing and then grading may be carried out. The mobility of the single elements makes possible the collective games. These exercises and games will be described later in this chapter.

As with the other sensorial materials, the bell material is pleasing in appearance from an aesthetic point of view. Control of error is provided in the materials by having the white (and black) bells remain in their proper places on the green boards. (For a more extensive discussion of sensorial materials, see Appendix VI.)

The pitch of the bells should be precise so that the double set matches perfectly. Occasionally one or two bells in a set are not precisely in tune. They should be replaced. Improper handling of the bells may contribute to eventual lack of precision in pitch. Handling the metal should be avoided. If the metal surfaces need cleaning, they should be gently wiped with a soft cloth. The metal should never be polished and, of course, the bells are off limits for science experiments with magnets.

If the bell material is being abused or handled carelessly it should be removed from the environment immediately. The proper way to handle it may be reintroduced a few weeks later.

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The bells are displayed on their own cabinet rather than on a shelf because they are usually used in the place where they are displayed. (Materials which are kept on shelves are removed from the shelves and taken to a work space for use.) The bell material should be protected from water and extremes of heat and cold. Since the bells are in the same order as a piano keyboard, with the lower tones to the left and the higher tones to the right, and they are spaced to show the whole step--half step pattern of the major scale, the bell cabinet should be accessible only from the front so that the children absorb the correct spatial-tonal relationship. The cabinet could be placed perpendicular to a wall if a high back is provided that will prevent visibility and accessibility from the wrong side. If the cabinet is placed perpendicular to a wall an adult can play the bells and still observe the children in the movement exercises on the line which will be discussed in the next chapter.

The bells should always be played standing up so that the person may freely move to any bell and strike it from the correct position.

Sensorial Exercises With Pitch

As with many of the Montessori exercises, the first exercises with the bells grew out of observation of

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what children would do when they were free to use the material. Anna Maccheroni spoke about her observations in a lecture at the 1921 London training course:

> It will sometimes happen in a class that a little child will take a bell at random and carry it off to his place, where he will listen to its sound with great pleasure. When you have the bells at your disposal, you will find that there is great pleasure derived from listening to a single tone until it dies away; the mode in which it diminishes in volume from loud to soft is full of beauty. One has very little opportunity of appreciating diminution in volume in a piano on which a tune is being played becuase the notes follow one another in more or less rapid succession, and one would need a very good instrument in order to be able to hear this diminishing sound. So when you see a child carrying off one of these bells leave him free to do so. An exercise which may be considered as amongst the first is the simple striking of the bells in order to learn how to do so correctly. There are many ways of doing this. By striking them in different ways, one can get more or less tone. If you hold the hammer lightly and loosely like the tongue of a bell, and hit the bell softly, you will get a much clearer tone than by striking too hard . . .[3]

In order to assure the best possibility of success with the above activity, a presentation was designed. Students in Montessori training courses are helped to analyze all the movements in such a presentation and then, to facilitate their internalization of the information, they write the presentation in their own words. This process insures that they understand all the aspects of the exercise to be demonstrated and will, therefore, give a better demonstration than if they were unaware. The presentations as written by the students serve as a

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guide for their demonstrations with children; however, since every child is different and every given movement in a classroom is different, the demonstrations vary according to the situation at hand. While Montessori's books simply describe the activities with the bells (The children are shown how to carry and strike a bell.), an actual student-in-training write up could be as follows:

How to carry and strike a bell

First Presentation:

1. Invite the child. "Today I am going to show you how to strike a bell."
2. Walk together to the bell table. "These are the bells."
3. Together select a brown bell.
4. Using analysis of movement, show how to carry a bell. Using the fingertips and thumb of the right hand move the bell from the bell table and place on top of the palm of the left hand for support. Be careful at all times not to touch the metal.
5. Walk together to a table (not too far away) while carrying the bell with great concentration and concern for its well being--like a precious object. Set the bell down noiselessly (one edge of the base of the bell first, then the rest) near an edge of the table where there is no chair.
6. Go back to the bell cabinet and pick up the mallet. Carry it to the table with the head of the mallet resting in the left hand, the stick in the right. "This is the mallet."
7. Noiselessly set the mallet down on the table to the right of the bell.
8. Kneel directly in front of the bell, to the right of the child. "You will always stand when you play the bell, but I have to kneel because I am so tall."
9. Pick up the mallet with your left hand and place it in your right hand. Hold it like a pencil only at the opposite end of the stick and let it be loose in your fingertips. Position your upper

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arm so that it is parallel to the floor.

10. "Watch." With your left hand point to the rim of the bell where you are going to strike it. Gently strike the rim by swinging the mallet away from the front of the bell and then back to the front of the bell.
11. Listen to the end of the sound.
12. "Listen." Repeat as in 10 above and listen to the end of the sound.
13. "Listen until you can not hear it anymore." Repeat as in 12 above.
14. Set the mallet down noiselessly. Invite the child to strike the bell. If necessary help the child with the correct positioning of the hand in relation to the mallet and the bell.
15. Child strikes the bell while adult observes.
16. If there is any problem say, "It's my turn again," and strike the bell while the child observes.
17. When the child can successfully strike the bell, leave the child and observe from a distance.
18. Watch to see when the child is finished and rejoin the child. Show the child where to replace the brown bell on the white space on the board.
19. If the child successfully carried the bell and struck it, tell the child that she/he may now take any of the brown bells to the table to play. Explain that only one bell may be at the child's table at any one time.

Second Presentation

Show the use of the damper to stop the sound. (Although this is a technique the child will need to know later, it is especially helpful if he or she is not listening through to the end of the sound because attention on how to stop the sound ensures that the child hears the sound for the period of time until he or she stops it.)

Third Presentation

Later, introduce the idea that one can sing with the pitches. Play a bell, let it sound for a while, stop the tone with the damper, and then sing the pitch. The adult sets an example by listening intently with averted eyes while the bell is sounding. After the tone has been stopped by the damper there is a short silence as the mind actively sets the tone to be produced by the

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the voice. Then the adult sings the tone. The adult does not ask the child to sing. Let the child's interest and/or courage direct whether or not he or she will sing. Some children will not sing in the presence of the adult, but can be heard softly singing the pitches when later doing the exercise alone.

Notes:

Averting the eyes while listening helps concentration remain on the auditory sense. Direct eye contact while listening to the tone moves concentration from the auditory to the visual sense.

The height of the table (and the bell cabinet) should be such that the child's arm is parallel to the floor as he/she strikes the bell with the mallet.

Introduce quite early in the life of the class. If class is not settled enough yet for a whole bell set up, then have a few on a tray in the cupboard and bring it out for those few children who are ready. Later when the bells are out, you can control who is playing the bells by keeping the mallet and damper in your pocket. The sound of the bells when played properly sets a good tone in the class.

This is the only presentation where you do not play up the brown bells and down the white bells before beginning. When the child sees you strike a bell for the first time (during his or her introductory presentation) your actions must be deliberate, thoughtful and precise. Playing up and down the scale involves a much more casual motion. It does not matter which brown bell is selected for this presentation.

The importance of this exercise for children ages two and one-half and onwards may be summarized as follows:

1. It establishes proper care and handling of the material. This is important because the bells are quite fragile and their sounds are easily thrown "off key" when carelessly handled. Showing

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proper care and handling prevents abuse. "Abuse is already hard to correct and the price paid is double--the material is damaged and costly to replace, and, also, the child will have to be corrected for a fault directly responsible to the adult."

Careful handling gives the possibility of the purpose of the material being fulfilled. This enables the child "to carry out succession activities as a means of development" because "each following presentation builds upon the child's ability to handle and strike the bell correctly".

2. It facilitates the development of respect for the material. Respect for objects relates to aesthetic appreciation. If an object is carefully handled, then its beauty and the joy it can give is retained. Aesthetic appreciation enriches one's life. If the object is carelessly handled, all that it could offer the child may be lost. Careful handling of objects is for the sake of the child--not for the sake of the objects.

3. It sets the method of striking the bell which will "produce clear sensorial stimuli so clear sensorial impressions can be received". This is important both for the child who is actively engaged with the bells and for all the other children within earshot because the exercise being played will be consciously or unconsciously absorbed by all. When the bells are struck in such a way as to produce an aesthetically pleasing sound they are a pleasant addition to the class. Played improperly, the resulting harsh sounds may contribute to the disintegration of the class.

4. It helps children focus on the sound this material produces. Listening is the essential component for furhter exercises with the bells.[4]

After a child has mastered the method of striking and has explored the sounds of individual bells, he or she may play all the bells at the bell table (Figure 10). Since the child in an on-going class will have heard the

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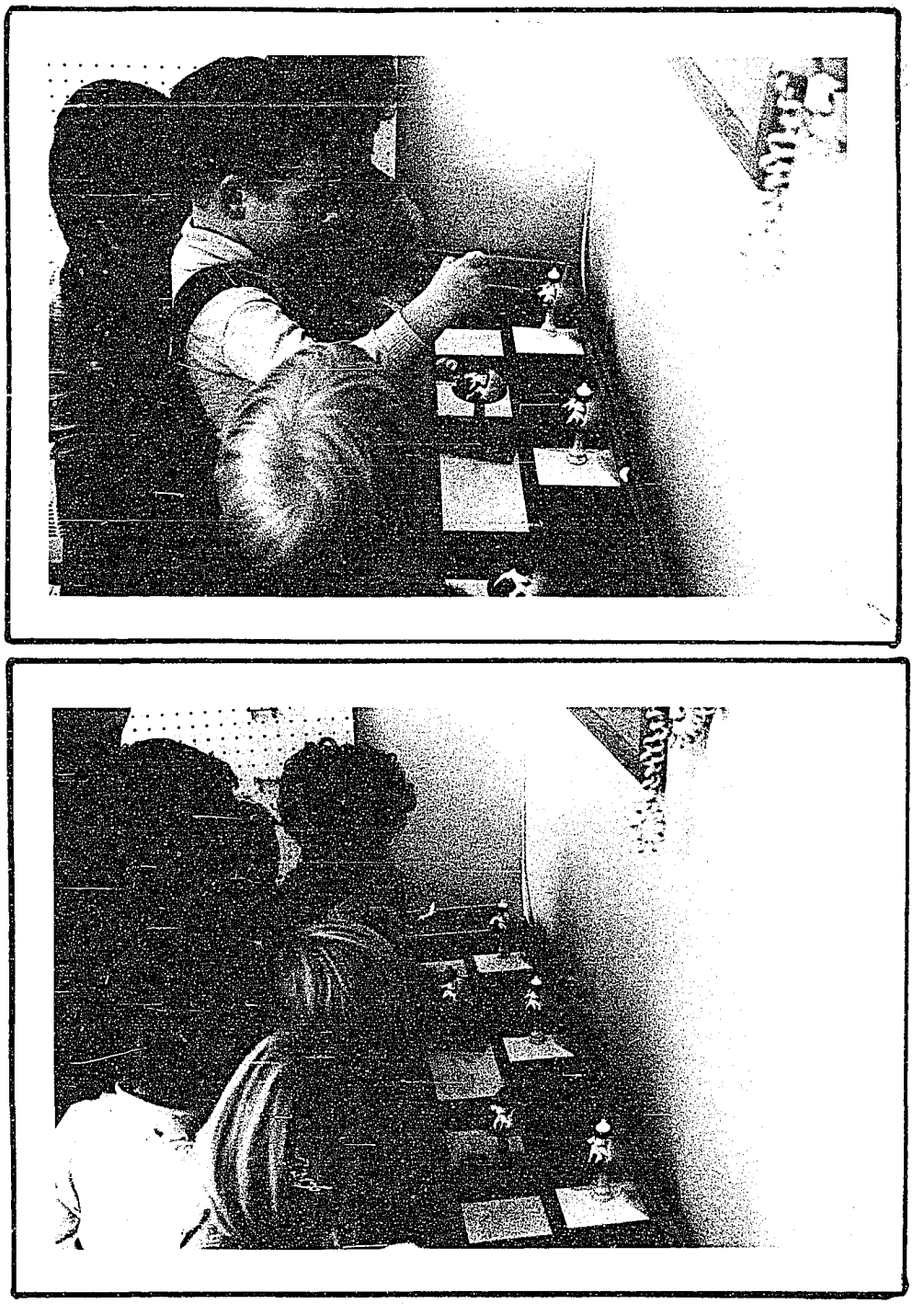

Figure 10. Exploring the bells at the bell table. (Class is in early stages so only a few bells are available on the bell table.)

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scale played many times, he or she may begin to do this spontaneously (Figure 11). Anna Maccheroni writes:

> By striking them in different ways, one can get more or less tone. If you hold the hammer lightly and loosely like the tongue of a bell, and hit the bell softly, you will get a much clearer tone than by striking too hard; and it is a good exercise for the children to strike all the bells in this way, either the diatonic or chromatic scale. In one school, a child repeated this exercise 100 times, a patient person who happened to be there sat by and counted. played up on these bells the scale is really beautiful; and when the whole class is at work, it is a pleasing sound to hear this done lightly and softly.[5]

Additional exploration of the bells on the part of the child may lead to:

1. Extemporaneous playing, which is more deliberate than random striking of the bells.
2. Playing known melodies on the bells by ear. As discussed in Chapter 3 on singing, this is prepared for in several ways:
   a. Simple melodies are a part of the class repertoire.
   b. A given song is always begun on the same pitch because the starting pitch is played on the appropriate bell.
   c. The melody of a song is played on the bells when the song is being introduced to the children.
3. The child's own melodic composition.

How far a child goes with this type of playing is up to the child. It may eventually lead to the writing down of his or her own melodies and to the reading and playing of melodies the child has played by ear. In the latter case, this becomes an aid to the development of facility in reading music.

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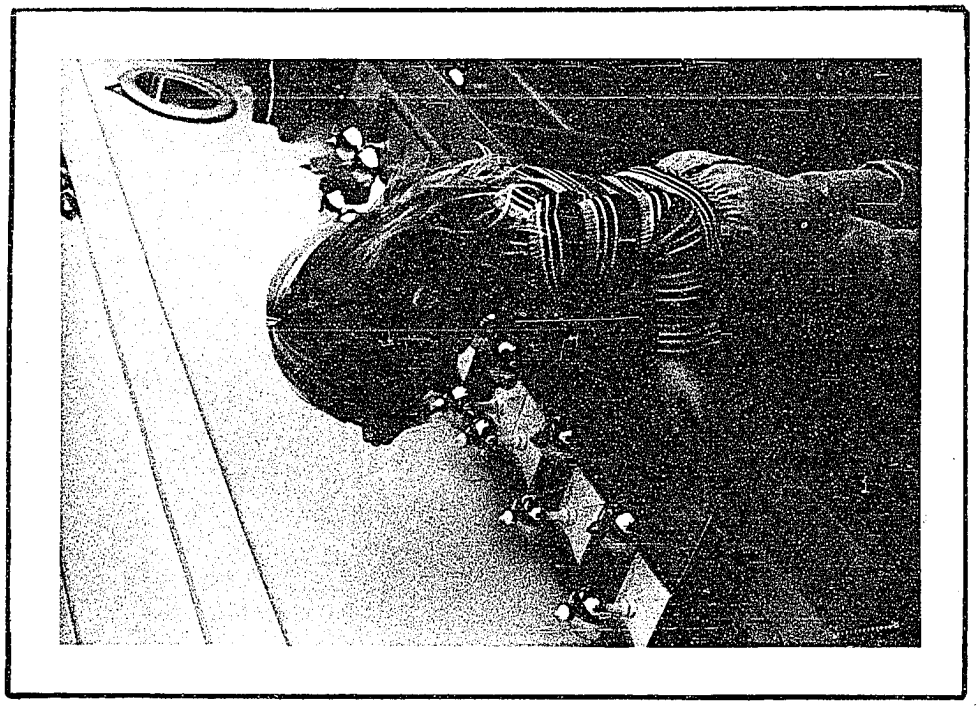

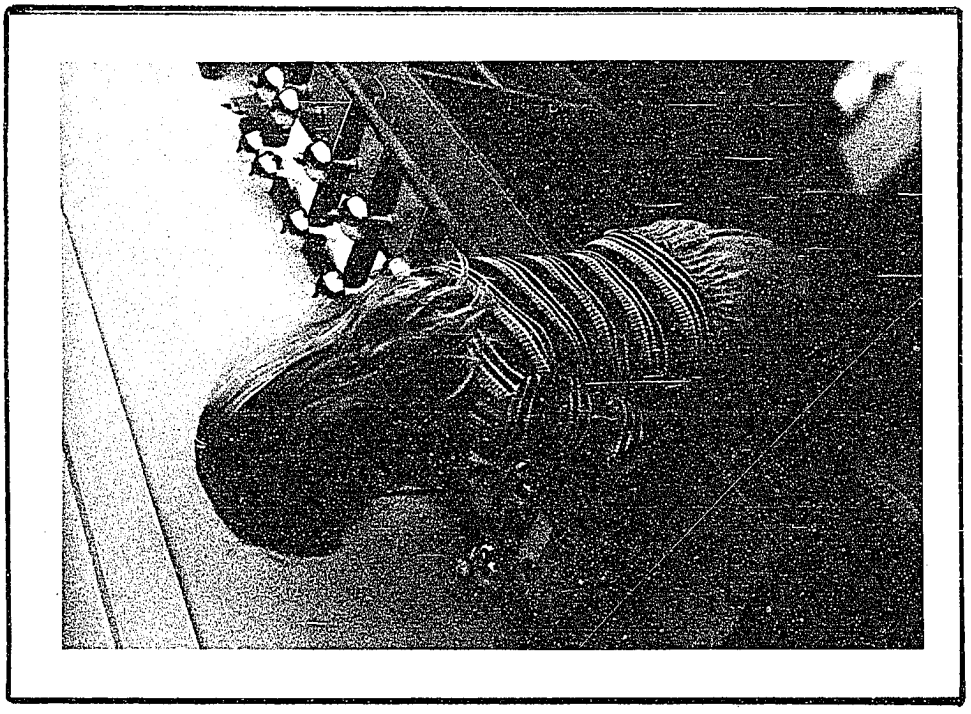

Figure 11a. Playing the scale.

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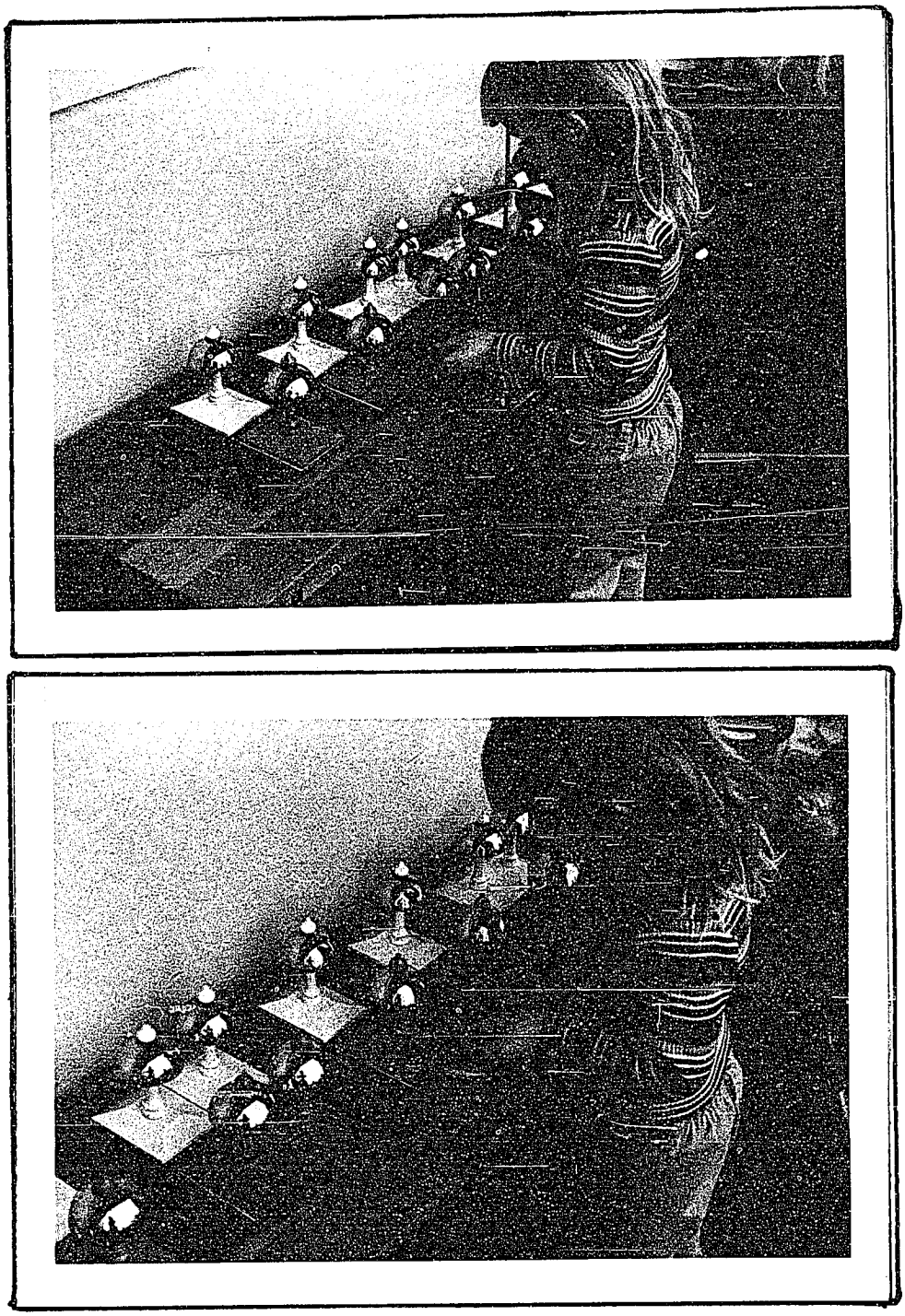

Figure 11b. Continuing up the scale.

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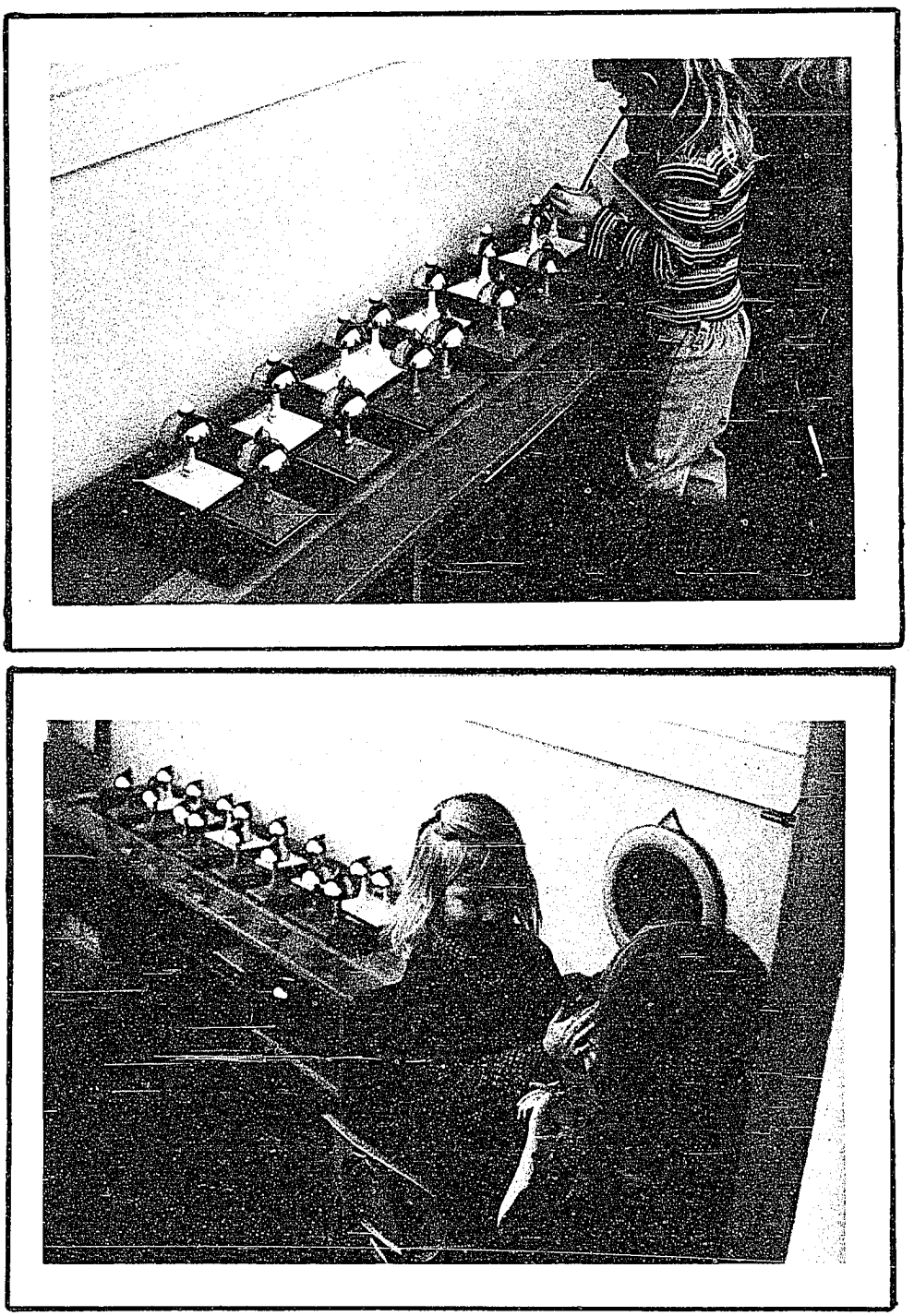

Figure 11c. Finishing the scale.

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After the child has had the opportunity to explore the bells at the bell table, a demonstration may be given on recognition of identities. The demonstration begins by playing up the brown bells and down the white bells. This both provides the sound of the whole scale for the entire class and it will quickly reveal whether or not the bells are in the correct order. From this point on, the children are encouraged to begin each use of the bells with the playing of the diatonic scale. Any adult in the environment will be able to hear whether or not the scale is in order, and, because the adult knows approximately where each child is in their sequential development in every area of the curriculum, he or she will know whether or not to go to the aid of the child. This helps avoid needless error and discouragement on the part of the children. Of course, it is not just an adult who can help in this situation. Any child may come to the aid of any other.

The exercise of matching identities continues by the adult choosing three bells with brown bases that have widely contrasting pitches. In this case c and c' are not the best choices even though they appear to be the farthest apart in pitch. Actually, c' is the first overtone that sounds when c is played; therefore, they may sound very similar. Good choices are c, f and a. These

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brown bells are removed, mixed, and placed to the right of the first empty white space (Figure 12). The adult strikes the first white bell (c), listens to the tone and then stops the tone with the damper. The same is done with the first brown bell. (When the brown bells were mixed they were placed so that the match for the first white bell would be the last bell to be tried.) Since the first brown bell doesn't match the first white bell it is moved slightly to the left. The first white bell is played and then the second brown bell. This brown bell is also not a match so it, too, is moved slightly to the left. The first white bell is played again followed by the third brown bell, which is the match. It is placed on the white space in front of the white bell and both are sounded again. Move the remaining two brown bells to the right of the next white space and repeat the procedure with the next white bell and the two brown bells. When the match for that white bell has been found, move the remaining brown bell to the right of the remaining white space and proceed as before. When all the pairs have been found, play up the brown bells and down the white bells for the final check. (Figure 13.)

During the above exercise it is best not to talk. If a brown bell does not match a white bell, the head can be shaken from side to side to indicate "no". When an

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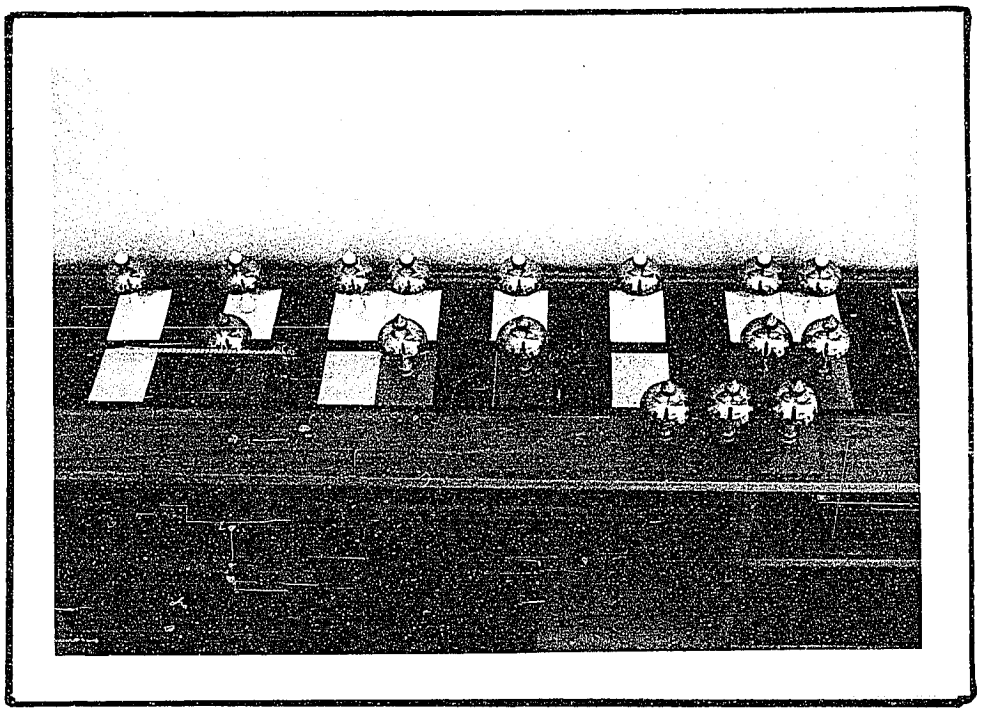

Figure 12. Matching exercises, three brown bells removed and mixed.

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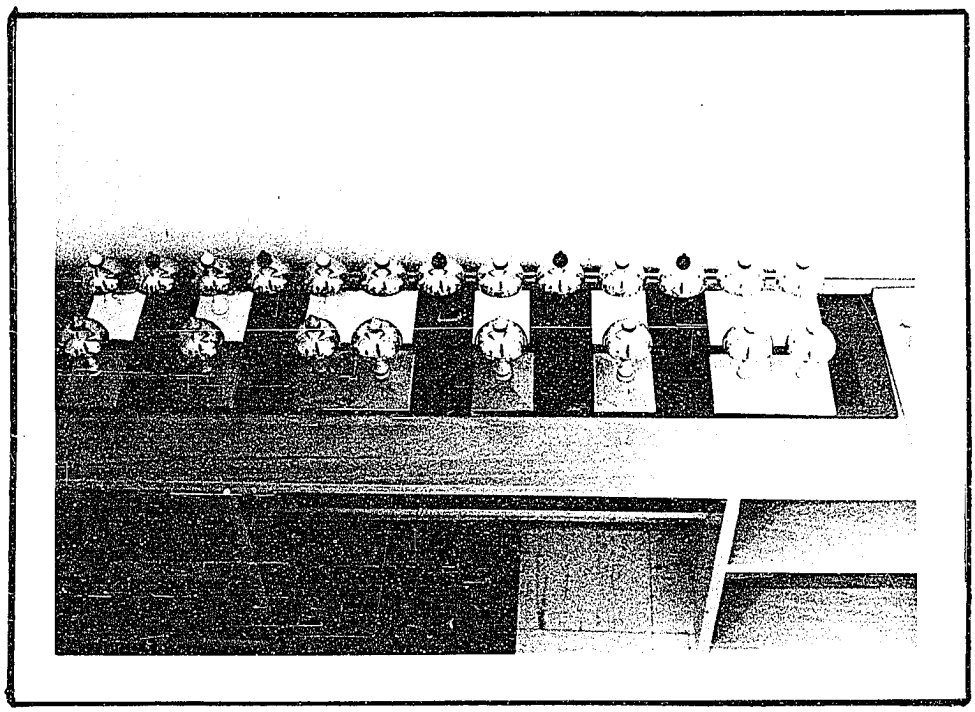

Figure 13. Brown bells returned to their places after the matching is complete.

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identity is found, the head may be shaken backward and forward to indicate "yes". When the child understands the exercise, he or she generally responds with the appropriate head movements plus a broad smile whenever a match is found.

The adult chooses the same three bells again, mixes them and invites the child to take over the procedure. The adult remains with the child through at least one completion of the exercise and then watches from a distance, ready to come forward to help as necessary. The adult explains that any three brown bells may be choosen for this exercises as long as they are not next to each other on the green boards. This guidance is given so that the child will not choose pitches that are a half step apart at the beginning.[6]

If the child notices that the scale does not sound right when doing the final check, the adult may say, "Let's just take off the ones we think are not in the right place." Do not offer a correction. Hold back and see if the child comes up with a way to correct it. The child's own way will be the most meaningful way to correct the situation.[7] If it is still incorrect, move the child's attention to another exercise or material with which the child has already experienced success. The child's emerging feelings of competence and confidence are much

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more important than pairing bells correctly.

Any time a child is not interested in a presentation or success with a material seems impossible, the child is not blamed or made to feel like a failure. Rather the adult must ask him or herself the following kinds of questions:

1. Was my presentation clear and precise? (e.g., Did I let the bell ring long enough to really hear it?)
2. Did I misjudge the child's readiness?
3. Are there other techniques I could have used? (e.g., With this particular exercise some children are able to find the pairs if the damper is not used to stop the tones. They listen all the way to the end of a tone before playing the next one.)

In presenting these exercises, the adult must include all the steps. The child who has understood will invent shortcuts.

When the child consistantly matches three pairs of bells successfully, then more pairs may be added until all eight pitches of the diatonic scale are matched at once. After sharps and flats are introduced, all thirteen pairs of tones may be used for matching (Figure 14). The combinations of pitches that are played in these matching exercises provide the child (and everyone within earshot) with the experience of listening to all possible intervals in Western music.

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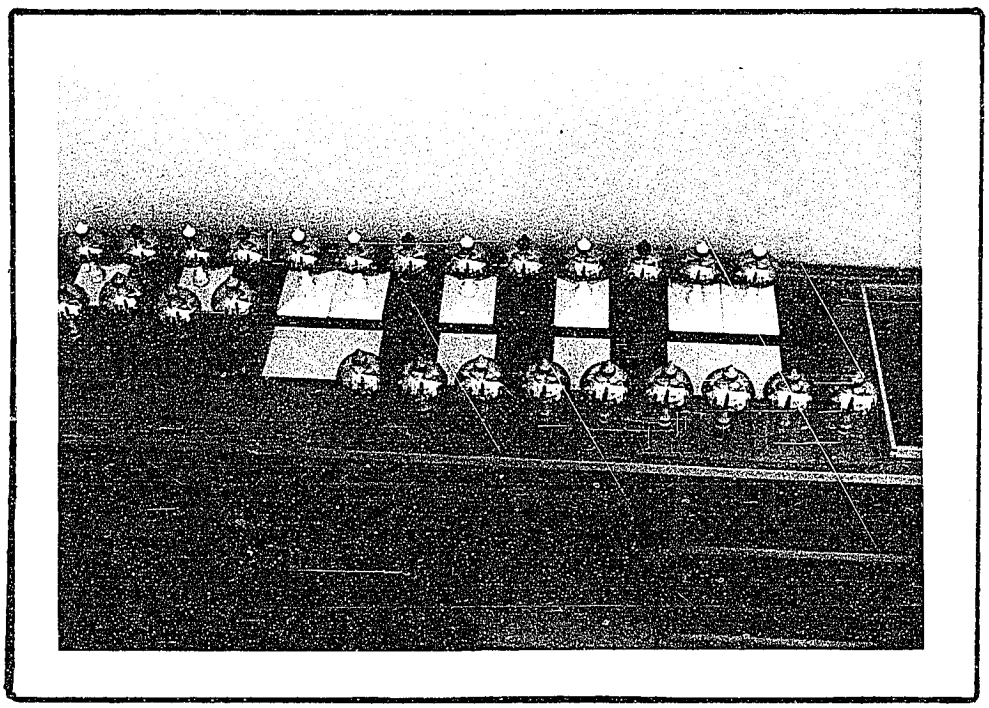

Figure 14. All thirteen pairs of bells in a matching exercise. The first four pairs have been found.

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As with any sensorial matching exercise there are memory games for pairing. In the first set of memory games the brown bells are carried one by one to a far table and mixed (Figure 15). The exercises in increasing order of difficulty are:

1. Play one of the white bells. Pull it slightly forward on its stand so it's obvious which one was choosen. Walk to the far table and find the same pitch among the brown bells. Carry the brown bell back to the bell cabinet and check to see if it is the match. If it isn't, return the brown bell and try again.
2. Do the same for two different pitches at once.
3. Do the same as one above, but with an interruption between the first hearing and the matching. (Walk around the room or have a brief conversation.)
4. Do the same with two pitches and an interruption or time lapse.[8]
5. The Scribble Game. Strike one bell, then a number of different bells at random. Sing the pitch of the first bell or find its matching bell on another table.[9]

The second set of memory games are the same as above except that the brown bells are scattered around the room instead of placed together on a far table.[10]

These memory exercises serve to help the children extend the length of time they work with the concepts embodied in the sensorial materials through the addition of new difficulties. As the children gain the initial skills and/or levels of understanding of the materials, new challanges are needed to make it interesting enough to continue their work so they can arrive at even deeper

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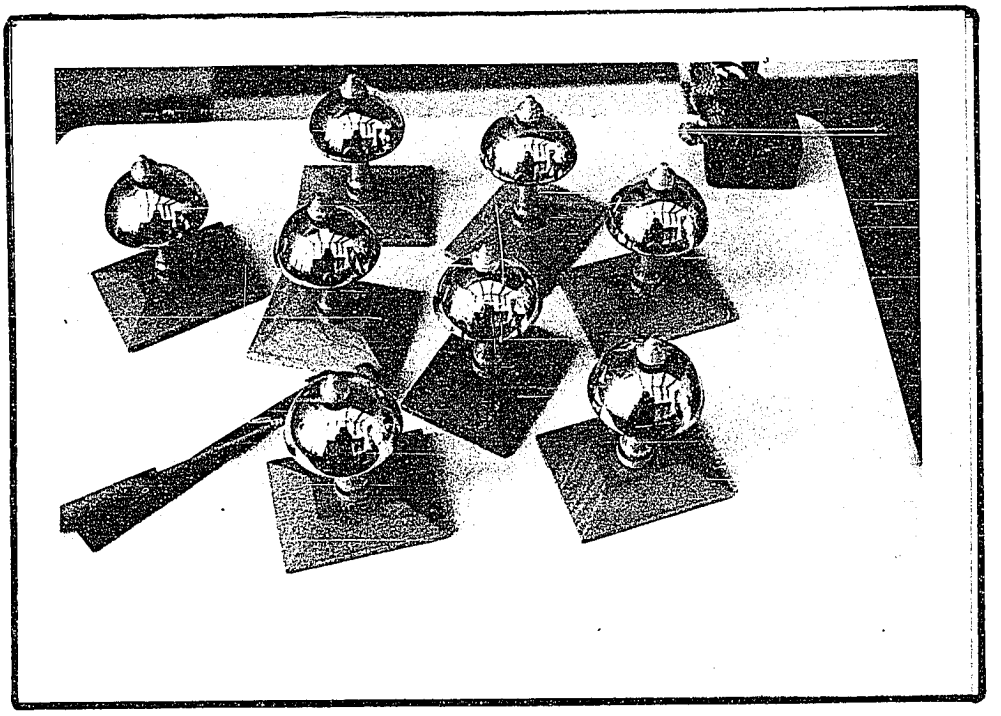

Figure 15. Brown bells mixed on a table far from the bell table.

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levels of skill and understanding. With the bells, these games aid the development of pitch memory as they require the children to remember the pitches for longer and longer periods of time.

An additional exercise for matching bells provides an opportunity for a group of children to work together. Any number of children from 6 to 16 can take part using the white and brown bells of the C major scale. This is the only occasion when the white control bells leave their places on the bell cabinet. The children who take part may be a mixture of children who have mastered pairing and those who have not; however, all must be able and willing to handle the bells properly. The procedure is as follows:

> Take as many bells, in pairs, as there are children. If there is an odd number of children then one child may be the person who strikes the bells. Half of the children have white bells, the other half have the matching brown bells. They stand in two lines facing each other. A child with a brown bell goes to the first child with a white bell. Both bells are struck one after the other. If the pitches are the same, the two children stand together off to the side. If the pitches are not the same the next child with a brown bell comes to the first child with a white bell. This continues until a pair is found. All those whose pairs have been found become the judges of the rest of the pairing process. This continues until all the pairs are found.[11]

Before proceeding to the grading exercises with the bells, it is necessary to establish directionality with regard to the scale. This may be an individual, small

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group or class lesson. The adult or a child may play the C major scale from c to c' and then explain this is a scale. Play it again and say that you are going up the scale. Play it again while pointing and moving the index finger of one hand upward as the C major scale is played. Invite the children to point their index fingers and move their hands upward as you play. Then introduce going down the C major scale accompanied by pointing and moving the hand downward. Ask them to listen and point in the direction the scale is being played. They will get a visual clue by watching the person playing the bells. Eventually, suggest they close their eyes. Some of those who are not sure will peek, which is perfectly all right. As soon as they are confident and want the challenge of using only their auditory sense, they will shut their eyes.

Whenever possible, one employs whole body movements. With the above exercise in directionality of the scale, the children may begin in a crouched position on c and slowly move upward until they are stretching and reaching as high as they can on c'. Children particularly love this exercise, especially when the bell player varies the pattern by sometimes playing only part way up the scale and then going down, or by playing all the way up the scale and then suddenly playing the low c.

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> A variation in this is the elevator game. The scale is played ascending and descending entirely or in fragments. The children use the same kind of body movements as before. When the elevator stops at a floor, one note is repeated for a time and the children remain motionless in the position they were in when the elevator stopped. Obviously, attentive listening is necessary.[12]

> When playing the scale with an individual child the adult may say, "Play up the brown bells and down the white bells." The child who probably cannot distinguish right from left, will automatically move to the right when playing up the scale and to the left when playing down the scale. It is important that the child stand when playing the bells. Eventually you can tell the child, "Higher to the right and lower to the left". This exercise then becomes an aid to remembering right from left.[13]

In Chapter III on "Singing" there is a description of various singing exercises that may be done with the scale.

There are also songs and little dramas which use the scale that may utilize whole body movement while the children act out the song or story. The "Pussy Willow" song is a good example of a scale song where the children start down low and rise higher and higher and then lower as the song is sung. (Figure 16.)

A child in the Montessori Neighborhood School came up with the idea of a drama to act out the seasons show by a seed growing into a flower, blooming and then withering and dropping its seeds back into the soil for the long winter. Each child begins on the floor, rolled up tightly in a ball as if they are seeds in the ground

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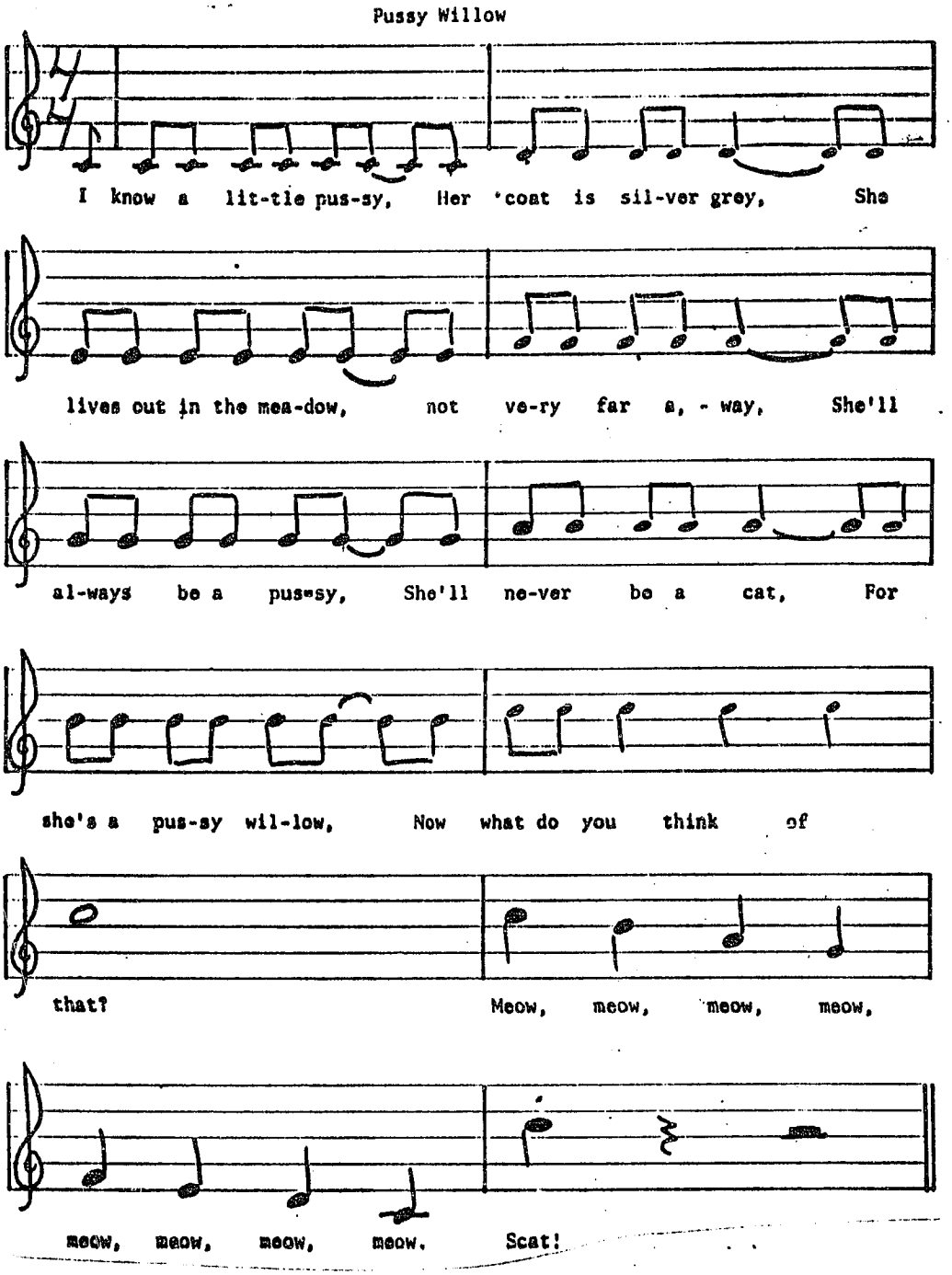
Pussy Willow
I know a lit-tle pus-sy, Her 'coat is sil-ver grey, She
lives out in the mea-dow, not ve-ry far a, - way, She'll
al-ways be a pus-sy, She'll ne-ver be a cat, For
she's a pus-sy wil-low, Now what do you think of
that?
Meow, meow, meow, meow,
meow, meow, meow, meow. Scat!

Figure 16

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under the snow. The player/narrator begins on low c and tells about the seeds in the ground during the long, snowy winter. As the player/narrator progresses up the scale he/she tells the story of how the sun shines and melts the snow as spring approaches, the seeds begin to stir and send up shoots, buds and finally a flower appears in the summer. By the time the flower blooms the children are stretched high on tip toes with arms out-stretched. As the scale descends, the flower withers and drops its seeds into the ground during the fall and the children curl up on the floor again. At this point, in this author's experience, the children say, "Let's do it again". A number of repetitions are necessary to satisfy their desire to act out the seasons.

A discussion of composition with the scale will be dealt with in Chapter X.

After the initial exercise with directionality, lessons may be given to show the concepts high and low. The three period lesson is used to introduce the terms. Begin by choosing a low sounding bell (c) and a high sounding bell (b) and moving them forward on the bell cabinet. In the first period, play the low bell while pointing down and then say or sing on that pitch, "This is a low bell". While pointing upward play the high bell, say or sing on that pitch, "This is a high bell". Repeat

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as often as necessary. During the second period of the lesson, ask the children to play the low bell or the high bell. In the third period, sing or play the low or high sound and ask the children to identify whether it was high or low. At some point ask the children not to watch. Those who are secure with the concepts will readily close their eyes or turn around so they cannot see which bell is played.

> As with the directionality exercises, these may be acted out with full body movements. The children may squat for the low sounds and stretch high for the high sounds. They may also act out picking fruit, such as apples for high sounds, strawberries for low sounds. Later, middle sounds may be introduced. Picking any fruit that grows on a bush, such as blueberries, could be acted out for middle sounds.[14]

Application of the concepts of high and low in the environment may be to listen for other high and low sounds, to play high and low sounds on the piano, monochord or other musical instruments in the environment, and to listen to the highness or lowness of any human voice.

While singing the children may listen for the highest or lowest note in a song. Later they could sing everything but the highest or lowest note in a song. The adult may show the children how to raise and lower their hands in the air for the different pitches they are singing.

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After the concepts of high and low are mastered, the rest of the positive, comparative, 'superlative series (higher, highest, lower, lowest) may be shown with the bells.

The next set of sensorial exercises with the bells deals with seriation (Figure 17). Dr. Montessori gives a very general discription of these exercises in her writings and lectures.

> The next step is for the child to distinguish differences, and at the same time, gradations of stimuli (like the exercises with the color charts, hearing, etc.) In this case the child mixes at random the eight bells, all of the same size, which give the whole tones of the scale. He is to find do, then re, and so on through the octave one note after the other, placing the bells in order in their proper places.[15]

> You will observe that certain children will repeat this exercise an almost incredible number of times. Perhaps you will hardly believe me when I say that children have performed this exercise a hundred times; I myself would have found it difficult to believe if I had not seen it. If the child repeats the exercise so often, it is because, if you will allow me the expression, he is hungry for it - almost insatiable. If the child is hungry for it, it is because he is in this sensitive period in which he requires it, a period which ends by his knowing all these notes. Then there is no longer any need for him to begin the exercise by finding the lowest note; he will be able to recognise at once the correct place for each note in the scale.[16]

Developmentally, most children will not be able to grade the bells until they have mastered pairing. A number of ways to grade have evolved through discoveries of the children during the course of the Montessori

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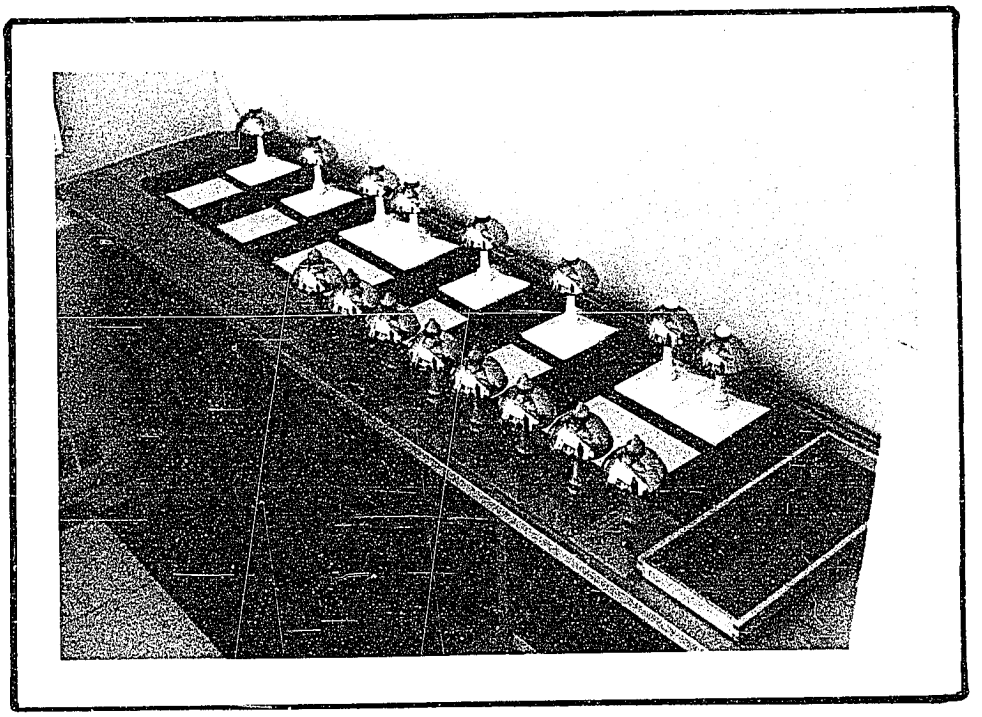

Figure 17. Brown bells mixed and ready to grade.

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movement. Different grading exercises in an approximate progression from easy to difficult are described below. It is usually not necessary to demonstrate more than the first two or three as children will usually think of other ways to grade if they are interested. Teaching all the variations would simply impede the children's own creativity; however, if no one is thinking up new ways to grade, some of these variations could be offered. The adult in a Montessori setting must walk a thin line between giving too much help, which will stifle the children's creativity, and giving too little help, which could leave the children with too anemic a base for their own creativity.

I. The developmental level of grading. Mix the pitches of the brown bells and place them in a line in front of the green boards on the bell cabinet. Find the first and second lowest tones in the brown bells by matching (Figure 18). Play those first two brown bells which are c and d, and then the first brown bell in the row in front of the green boards saying "We are looking for the bell that sounds as if it comes next". If it is the third lowest bell, place it in front of the third white bell, but do not check it with the white bell. If it is not, move it slightly to the left, then play c and d and the second bell in the row. Continue this procedure until you find the third lowest bell (e) and set it in its

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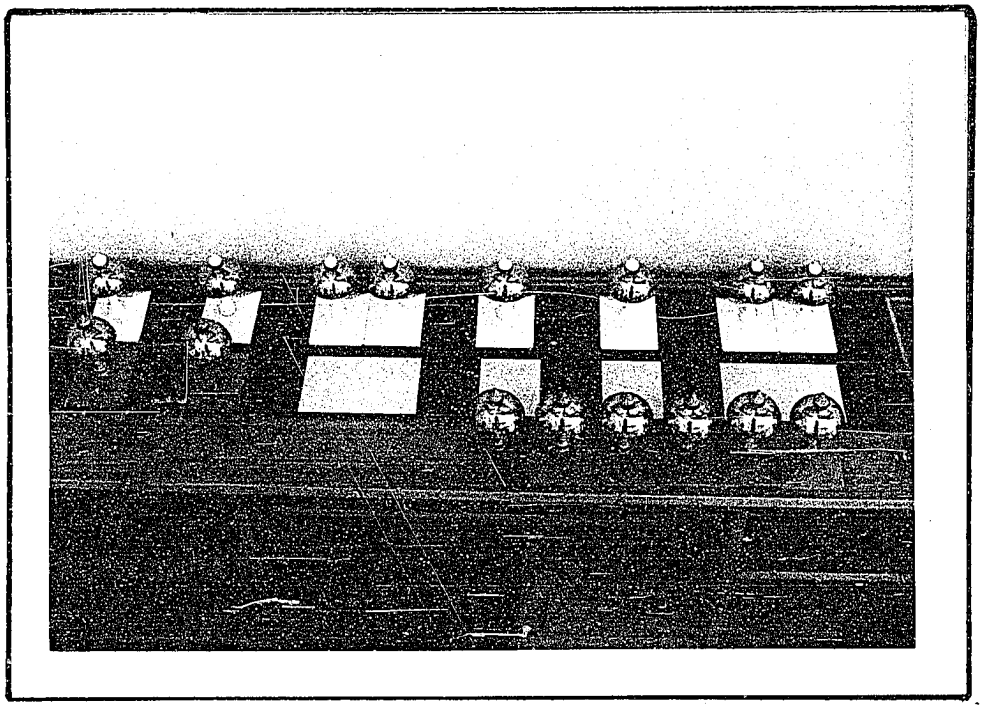

Figure 18. First and second brown bells matched.

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place. Move the remaining brown bells in front of the green boards one by one back to the right. To find the fourth lowest bell, strike c, d and e and then the first brown bell in the row, and so on, until all eight of the brown bells are in order.[17] If this becomes very easy for a child you can suggest that he or she play only the last bell found and then another one.

II. Grading level II. Mix the brown bells and place them in a line in front of the green boards. Find the lowest bell by matching. Do not play it again until all are in order. Search among the rest of the bells for the next lowest and place it in its proper place on the green boards. (The child must already know the position, comparative and superlative forms of high and low.) Continue until all are in order. Then play up the brown bells. Generally the children do not realize that this procedure will produce a scale. The sound of the resulting scale is for them a delightful surprise.[18]

III. Grading level III. Do the same as in II above, except don't identify the first bell by matching. Some of the children will have an advantage over the adult in this situation because they will already know the names of some of the pitches and will recognize them.[19] The naming of pitches may begin when the child can successfully pair the bells. The naming of pitches will be

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discussed later in this chapter.

IV. Grading by comparison. (Figure 19.) Mix and place the brown bells in a line toward the edge of a table. Take the first brown bell on the left and place it in front of the second brown bell. Strike each one in turn, take the lower one and place it in front of the third bell. Strike each one in turn, take the lower one and place it in front of the fourth bell. Continue in this manner to the end of the line. The lower of the last two bells should be the lowest brown bell. Place it in its proper place in front of its corresponding white bell on the green boards. There are now seven brown bells left in the line on the table. Repeat the above procedure to find the next lowest bell, etc. until all the brown bells have been put in order.

V. Grading from highest to lowest. Do any of the above process grading from highest to lowest. Since one generally thinks from lower to higher in music theory (naming the notes in a scale, spelling triads, etc.) one begins the grading exercises going from lower to higher. The reverse process can be an interesting exercise after the lower to higher pattern has been established.

VI. Grading in both directions. Pick any bell and grade in both directions from it.[20]

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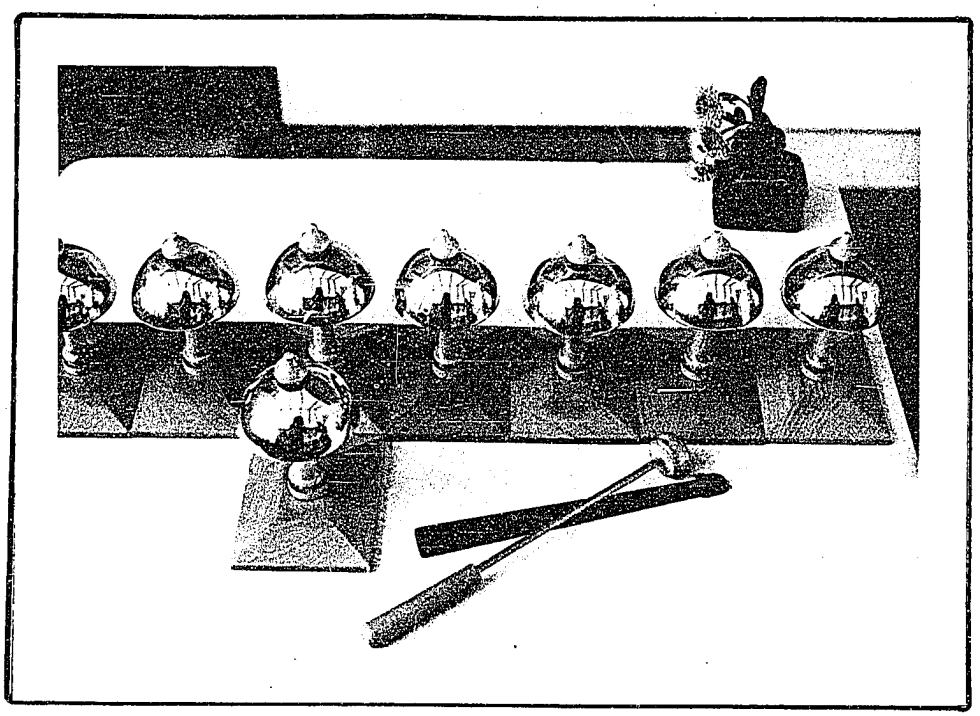

Figure 19. Grading by comparison.

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VII. Random Grading. Place the brown bells in random order on a table. Select two bells and play them one at a time. Place the bell with the lower tone to the left and the bell with the higher tone in line with it to the right. Take another one of the brown bells. Compare it with either of the two bells which are already in line. If it is lower then place it in line to the left. If there is another bell in the line to its left compare it with that one also. If it is lower, place it to the left. If it is higher, leave it between the 2 bells which were already in line. With bells that are higher, move them to the right until their place in the line has been found. Continue in this manner until all the brown bells are in the line. Beginning at the left, play the bells in order. If the exercise was correctly done, the result will be the scale.[21]

As the children become facile with grading exercises I, II, III, V and VII, the process may be made more difficult, and therefore more interesting, by placing the bells to be graded on a table far from the bell cabinet as in the first type of memory exercise and, later, by placing them in different places around the room as in the second type of memory exercise.

A typical sensorial gradation game would have the brown bells far from the bell cabinet. Any white bell is

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played and the child is asked to go to the brown bells and find the next higher (or next lower) bell.

Singing games may be played with the scale. For example, the first three bells of the scale may be played and the child or children sing the pitch that would be next in the scale. Another example would be to remove one bell, play the scale without that tone and then have the children sing the tone that was missing.

A group of eight children, each holding one of the brown bells, may grade themselves into the C major scale. Let them proceed without adult direction, unless it is evident that they cannot manage it.[22]

After sharps and flats have been introduced, all of the above exercises may be done with the chromatic scale.

Montessori spoke of the chilren's ability to remember the pitches:

> . . . when I touch one of these middle ones I know that it is not either the first or last of the series, and in this way I shall have taught my ear to recognize isolated musical sounds. It is clear that this sensorial education has a relationship with music, but it is something also apart. The child might quite well recognize these notes without knowing their musical names or their time value.[23]

Various games relating to this pitch memory may be played with the children who have been working with the bells.

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1. The adult may strike one of the bells, and tell the children that when they hear that sound again they are to stand up. Other notes may then be played, or the children may return to their other work. Sooner or later the selected pitch will be played and the children respond by standing up for a moment. At first the time interval between the selection of the pitch and the playing of it to elicit the children's response should be quite short. As the children's pitch memory developes, the time interval may become longer. Eventually various notes may mean different things, such as get a drink, sit down, and an announcement is going to be made.

2. The children in a small group may each choose a different pitch to represent themselves. When their pitch is played, they stand up or give some sort of indication that they recognized their pitch.

3. "Ascending and descending diatonic and chromatic scales may be assigned different actions."[24]

All of this work at the sensorial level serves as a base for the later study of music theory. Montessori said,

> The great point is to make progress in this exercise of recognition of the notes until the child can reach the point when he can recognize any note as c (doh) or e (mi) etc. on hearing a song. Therefor this part which we consider the most difficult, that is to

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recognize the absolute pitch of a note, occurs at a very early age; it is the part of the very young child; it is the infancy of music, the simplest part, which requires no reasoning.

We have never been accustomed to separate this sensorial part of knowledge from that part which depends upon reasoning. We often observe that it is only people who have an excellent musical ear who will succeed in this; that is because, if we may say so, they have preserved the sensibility which belongs to a very early age. Learning a succession of notes in the scale is one of the most tiresome things for us to learn; but to the young child it is one of the most fascinating. It has been observed repeatedly by experience that what most interests the child is the scale, or a few sounds following one another, for example, the sound of bells or simple sounds produced by chords (of string instruments). This is the music which is the most accessible and most easily understood by the young child.

What I have tried therefore to show you today by means of these two exercises is what we understand by sensorial education. First of all, it is a systematic education; secondly, it is an education altogether distinctive and apart from what we understand as reasoning in education. What is generally lacking in education is the giving to the senses something precise and systematic. We prepare this material systematically, the child takes it from a sensorial point of view without bringing to bear upon it anything like reason. We give the child here a systematic and precise foundation - which is not generally done. We do not give these things here by hazard as it were. These senses which the child possesses permit our giving him or passing on to him a kind of systematic classification which he can apply to the world around him. A kind of science and philosophy accessible only by the senses.[25]

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CHAPTER V - FOOTNOTES

[1]Maria Montessori, The Montessori Elementary Material, trans. by Arthur Livingston, (Cambridge: Robert Bentley, Inc., 1965), p. 365.

[2]Anna Maria Maccheroni, lecture 37 at the London Montessori Training Course, (unpublished manuscript, from AMI's private collection), June 28, 1921, p. 1.

[3]Maccheroni, lecture 37, p. 1.

[4]Summary of Student Exam Responses, Montessori Training Center of Minnesota, St. Paul, Minnesota, March, 1979.

[5]Maccheroni, lecture 37, pp. 1-2.

[6]Elizabeth G. Hall, music lecture from "Children's House Training Course" (2½ to 7 years old) 2nd course of the Montessori Institute of Cleveland, Cleveland, Ohio, March, 1979.

[7]Hall, music lecture, March, 1979.

[8]Vittoria Fresco-Galeazzi, "Course on Music Education", lecture at the Sixth International Training Course at the Centro Internazionale Studi Montessoriani, Bergamo, Italy, Spring 1967.

[9]Sanford Jones, music workshop sponsored by the Montessori Development Foundation, Cleveland Heights, Ohio, Summer 1972.

[10]Albert M. Joosten, private interview in St. Paul, Minnesota, December, 1979.

[11]Fresco-Galeazzi, "Music Education", Spring 1967.

[12]Fresco-Galeazzi, "Music Education", Spring 1967.

[13]Hall, music lecture, March, 1979.

[14]Jones, music workshop, Summer 1972.

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[15]Maria Montessori, Elementary Material, p. 365.

[16]Maria Montessori, lecture 11 at the London International Montessori Training Course (unpublished manuscript, from AMI's private collection), April 30, 1925.

[17]Hall, music lectures, March, 1979.

[18]Hall, music lectures, March, 1979.

[19]Hall, music lectures, March, 1979.

[20]Maria Montessori, Elementary Material, p. 324.

[21]Albert M. Joosten, private interview in St. Paul, Minnesota, 1975.

[22]Fresco-Galeazzi, "Music Education", Spring 1967.

[23]Maria Montessori, lecture 18, course unknown (unpublished manuscript, from AMI's private collection), May 16, year unknown, pp. 4-6.

[24]Fresco-Galeazzi, "Music Education", Spring 1967.

[25]Maria Montessori, lecture 11, April 30, 1925.

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CHAPTER VI

MUSIC THEORY WITH THE BELLS

Children are first fascinated with a sensorial study of musical sound when they enter a Montessori House of Children. Later, they wish to know the names of sounds, and how to express them with graphic symbols, etc. Their desire to study music theory flows from their sensorial experience and follows the natural progression of human development which is experience, followed by naming, followed by graphic representation. This progression begins anew with each new level of sensorial experience. When a child has achieved a measure of success with the bell matching exercises, note names may begin to be introduced. When the child has achieved initial understanding of grading, the irregular seriation of the major scale may be shown through the introduction of whole steps and half steps. Following an understanding of grading and a knowledge of note names may come the introduction to the musical staff and notation on the staff. When the child first asks what the black bells are for, or what comes in the spaces between the bells on the bell cabinet, the sharps and flats may be introduced, sensorially, then

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with names, and finally with notation. Naming of the bell pitches may begin as soon as the child shows a degree of confidence in matching the bells. This indicates that the child hears the pitches clearly and can distinguish one from another. There is no point in giving names to pitches before this development has occurred. When it has occurred, "It is as easy for young children to learn the names of pitches as it is for them to learn that a particular color tablet is blue."[1] The three period lesson for naming pitches is as follows:

Select two or three brown bells and place them in front of their white spaces. These bells should be some distance apart. If two bells are to be used good choices for the first lesson are c and g (the first and fifth bells), for three bells, c, f and a (the first, fourth and sixth bells) could be used. In the first period, play the c, then say or sing on that pitch, "This is c". Do the same for the other bell(s). Repeat this step as often as necessary. Mix the bells. During the second period, play c on the white bell, then say or sing, "Find me c". The child finds c among the brown bells. Continue this process as long as necessary, or the child's interest holds, using all the bells being named. In the third period, mix the bells again, play c on the brown bells, then say or sing, "What is this?"

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When the child knows these very well, more may be introduced. If the child knows the symbols for the names of the first seven letters of the alphabet, then the white discs with those letters may be placed in front of the bells which have been named.

When several children have learned the names of a few notes, each may be assigned a different pitch. They will respond with a predetermined motion when their pitch is played. This is the same game that was mentioned in Chapter V, only this time, the names of the pitches are included.

The pitch names which are in common usage vary from country to country. Some use letter names for notes, others use do, re, me, fa, sol, la, ti, do in either a fixed do system or a moveable do system. Whatever is the system in most common usage in a country should be the one used in the Montessori classes in that country. After that system of note names has been mastered, the other system may be introduced as an interesting variation, just as Roman numerals are introduced in math as a different way to represent quantity.

Montessori and Maccheroni were used to do, re, me, etc., therefore those are the note names used in their lectures.

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If there is a piano in the Montessori environment, the children will naturally want to play it. A discussion of "composition" on the piano will be discussed in Chapter VIII. An exercise some children enjoy consists of labeling the white keys with small cardboard circles on which the names of the notes are written. The lowest white key on an 88 key piano is "a". From there the keys progress in alphabetical order using the first seven letters of the alphabet over and over: abcdefgabcdefgabcdefg, etc. As each label is placed, the key is played. The children usually begin making observations concerning the groupings of the black keys in twos and threes. Following this they discover that "c" is always found on the white key to the left of each group of two black keys, "b" is always the first key to the right of each group of three black keys, etc.

Montessori and Maccheroni understood the children's fascination with the piano and provided a small version with keys appropriately sized for small hands.

> . . . we are using in our schools a miniature keyboard which shows the main mechanism in a simplified form. The keyboard consists of only two octaves (the illustration in the book showed three octaves) and the keys are scaled to a four or five year old child's hands, just as the keys on a regular piano are made for adult hands. The whole mechanism is visible. When a key is touched, the hammer, which has the name of the note on it, is visible as it moves. The hammers are black or white, corresponding with the keys. With the help of this visible keyboard it is very easy for

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> the child to practice alone and to find on the keyboard the notes which correspond to the notes on the paper.
>
> The whole arrangement gives no sound; however, one can place some tuned pipes on top so when the hammers strike them, the proper tones will sound. The child can then continue with the tones as a guide.[2]

When a child has experienced a degree of success with grading, half steps and whole steps may be introduced with the help of the bells and printed card material. This presentation is for children who are able to do the first and second grading exercises. The printed card material consists of 5 cards which say whole step and two cards which say half step. The whole step cards have a curved line, the half step cards have an obtuse angle. (Figure 20.) The child who cannot read may rely upon the curved line to indicate a whole step and the obtuse angle to indicate a half step. Sort the cards into two piles, one for whole steps, the other half steps. Play the bell on the first degree of the scale and the bell on the second degree of the scale, then sing them on "la". Say that is a whole step, point out the space on the board between the two bells and place the label which says "whole step" in front and between the two bells. Do the same for the second and third bells. Play the third and fourth bells and sing them on "la". Tell the children that they sound close together. Point out that there is no space between the two bells, say that is a half step

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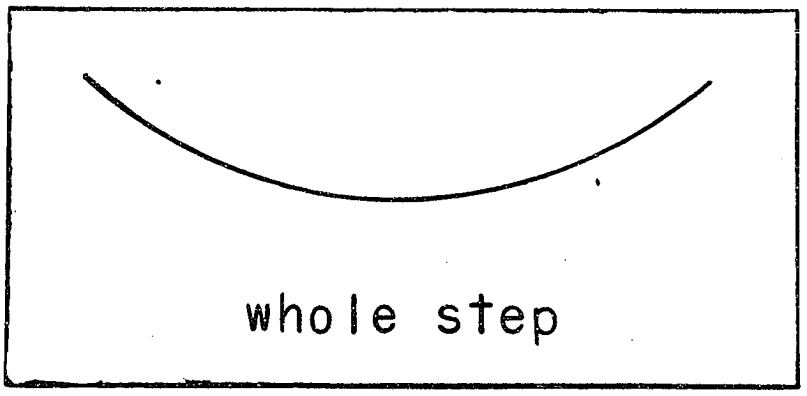

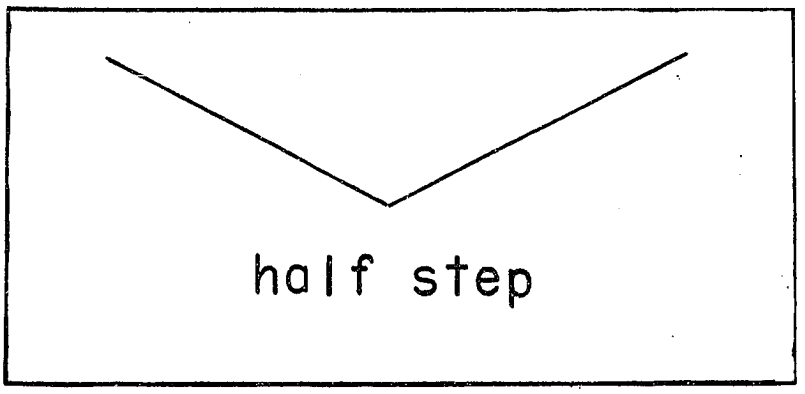

Figure 20. Whole step - half step cards.

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and place a label saying "half step". Continue in the same manner with the rest of the bells. The control chart in Figure 21 represents the final result.

> The adult now lifts the second green board and its four bells and places it in front of the first green board with its four bells in order to show that they have the same pattern--whole step, whole step, half step. The adult tells the children that this four note pattern is called a tetrachord. This gives the children a sensorial impression which will be helpful later in the study of the progression of scales in different key signatures.[3]

Following the introduction of whole steps and half steps, a group exercise may occur in which eight children take the brown bells and grade themselves, placing themselves in the whole step, half step pattern of the major scale. Another child strikes each of the brown bells in turn, taking large steps between the bells that are a whole step apart and very small step between the bells that are a half step apart. Of course, everyone participating in the exercise must have a turn to strike the bells if they wish.

After sharps and flats have been introduced, the whole step--half step pattern of the chromatic scale may be shown. The children discover that there are only half steps in the chromatic scale. Figure 22 shows the control chart pattern for the chromatic scale.

When a child knows the names of the pitches of the C major scale and can grade, the study of pitch notation

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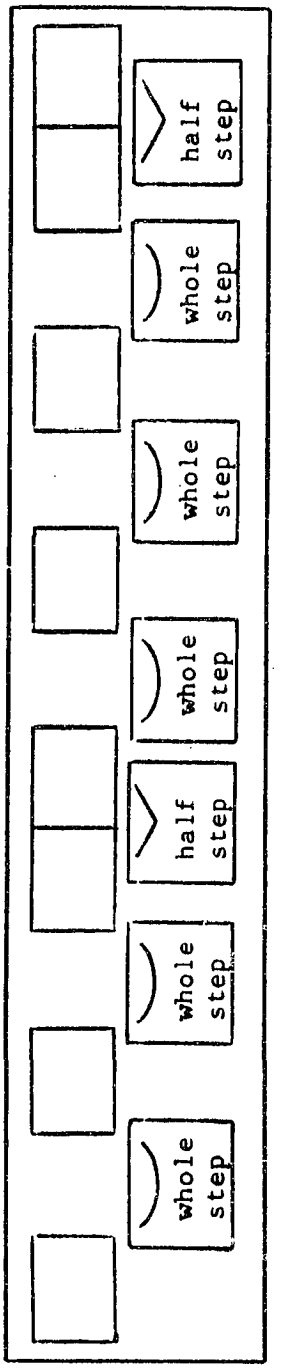

Figure 21. Control chart for the whole step - half step cards.

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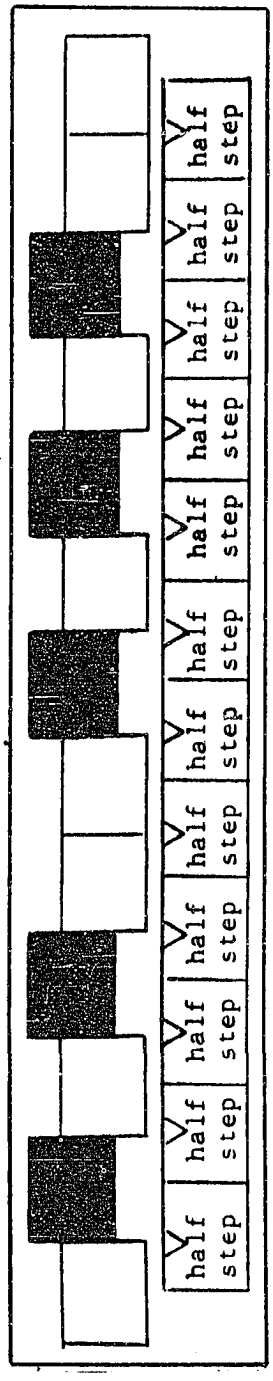

Figure 22. Control chart for the half step pattern of the chromatic scale.

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may begin. First comes an introduction to the musical staff which provides the background on which pitch notation is placed. This is done with one of the green staff boards and the appropriate music theory card material. The green staff board is presented and the word, staff, is introduced. The card which illustrates a staff is also shown. Count the lines of the staff beginning at the bottom and going up. As the counting is being done, each line is traced from left to right. A three period lesson may be done if necessary to ensure the child understands. The same procedure is used to present the four spaces of the staff. Ledger lines and the g clef are also introduced in this lesson. After each part of the lesson has been presented, the appropriate card material is shown. (See Figure 23 for the cards that belong to this lesson.) If there is a chalkboard and a staff marker in the class, the children may draw the staff on the board.

With the above preparation, one may proceed to the material for showing pitch notation. Montessori describes it as follows:

> In "The Children's House" the musical staff is introduced by means of a board painted green with the lines in base relief. On each line and in each space representing the octave to which the sounds of the bells respectively correspond, is a small circular indenture, or socket, into which the disk for each note may be inserted. Inside each indenture is written a number: 1, 2, 3, 4, 5, 6, 7. The disks used in this exercise have a number written on the lower face and the name

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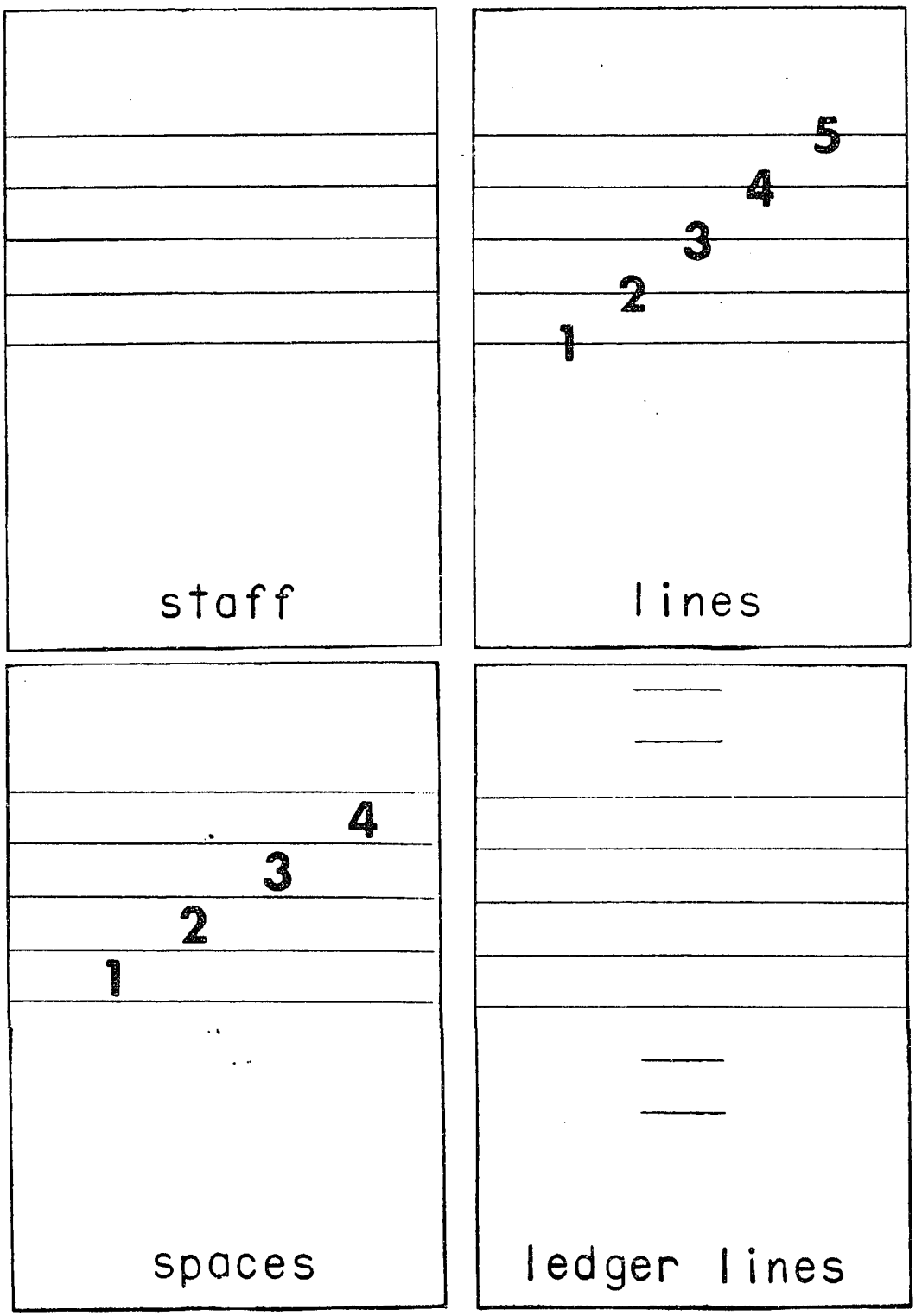

Figure 23. Cards for the introduction to the musical staff lesson.

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> of a note on the upper: for instance, 1, do; 2, re; 3, mi; 4, fa; 5, sol; 6, la; 7, si:
>
> This device enables the child to place the notes on their respective lines without making any mistakes and to examine their relative positions.[4]

To begin the lesson two, three or four children are invited. They place "disks with the names of the notes, on the rectangular foot of the corresponding bells".[5]

A small table is placed at right angles to the bell cabinet on which the green staff board with the circular indentation may be set. Unfortunately, this board is now manufactured with black circles instead of the indentation. The board, the numbers on the board and the disks with the numbers on one side and the note names on the other are introduced and the children are shown how to match up the disks with the corresponding numbers on the board. The adult then turns over the disks in order from lowest to highest, while saying the note names that appear on the other side of the disks: c, d, e, f, g, a, b, and another c. The children will probably say that those are the same as the names of the bells. If they don't, they are given a few hints and, if that doesn't work, they are told. (At every possible opportunity the materials and presentations are designed so that the children can make discoveries for themselves.) The adult explains that this is how the scale is written and points to the notes as

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she/he plays them on the bells. The playing may be repeated and all may sing along.

> This gives the children the idea that this very familiar sound, which they have probably been hearing for at least a year, is written in this manner. The disks may be taken out and replaced by the children. The adult suggests that they do it without looking first at the numbers on the reverse sides of the disks. The children then place the disks, check to see if they were correct and play the bells.[6]

At some point the information about the lines, spaces and ledger lines of the staff may be combined with this board by discussing which note is on the first line of the staff, the second space of the staff, the first ledger line below the staff, etc. The g clef may also be discussed.

> A later exercise with the board and disks would involve a small group of children. The first child chooses a disk, places it in its proper place on the board and plays the appropriate bell. The next child chooses a disk, adds it to the staff and plays what is on the staff from left to right. No matter what disks are placed in what order, the children play them from left to right. If a child places a disk in the wrong place, he or she is asked to check the back of the disk.[7]

With this board and disks the children become aware that a note (disk) in a particular place on the staff stands for a particular pitch. It will be observed that the same excitment will appear with this work as when the children discover they can write their own language.

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Following the introduction to the notes on the staff, another exercise is offered which will ensure that the children understand a note receives its name from its place on the lines or spaces of the staff, rather than from its place in a sequence of notes. Dr. Montessori described the material and exercise:

> Another part of the didactic apparatus is a stave whose lines are cut in wood or drawn on cardboard. On this stave can be placed a great number of disks. The child reads their names and puts each in its right place - the name being on the under side and so hidden. When all these white disks are placed, and the stave is covered with them, we turn each disk without moving it from its place. Thus we can verify and see whether the disks are placed correctly - whether, that is, all of those having the same name are found to be or not to be placed on the same line of the stave.[8]

If there is any doubt as to the placement of a note, a control card may be used (Figure 24) or the first board with the numerals.

There are several parallel exercises for note names on the staff which may or may not be necessary for the children. The first is a double set of cards for the notes of the C major scale. A picture of the note on the staff is on one side of the card, the name of the note is on the other. (See Figure 25.) The cards may be used as a matching set. Another way to use them would be to draw a card, look at the picture of the note, think of its name, check with the back of the card and then play its corresponding bell. The reverse procedure may also

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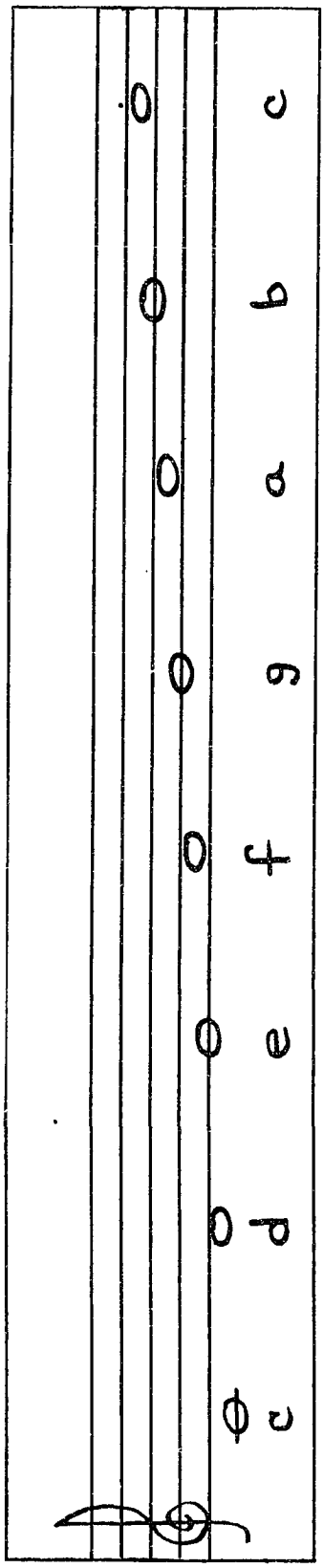

Figure 24. C major scale control card.

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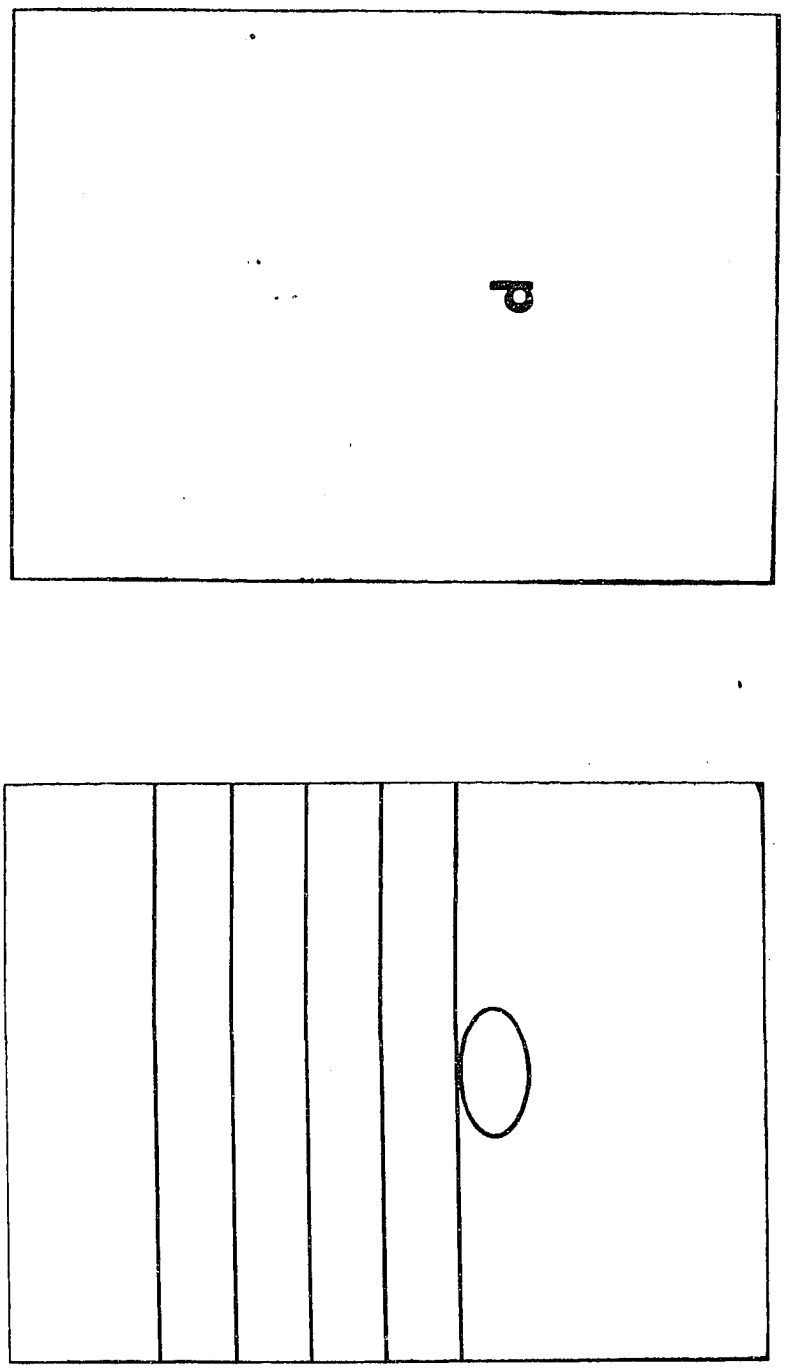

Figure 25. Example of one card and its reverse side from the double set of cards which show the notes of the C major scale for the bells.

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be done. Draw a card with the note name side up, think of that note's position on the staff and place a black disk in that position on the green staff board, check with the note picture on the reverse side of the card to see if the black disk has been correctly placed, and, finally, play the corresponding bell. It is important that notation be connected with its reality in sound whenever possible.

Another set of cards may be used for grading. In this set there is one card for each of the eight notes of the C major scale. The picture of the note is on one side and the name of the note is on the other. A control chart which has the names of the notes written below the notes on the staff may be used to check the graded cards. (See Figure 26.) After the cards have been graded, the bells are played.

For children who can read there are three sets of cards for each of the eight notes in the C major scale plus a booklet. In the first set the card for each note is left whole. In the second set each card is cut into two pieces so that the name of the note and its description are separated. In the third set each card is cut into four pieces - name on one piece and description on three pieces. One of each card is in the booklet. The descriptions are as follows:

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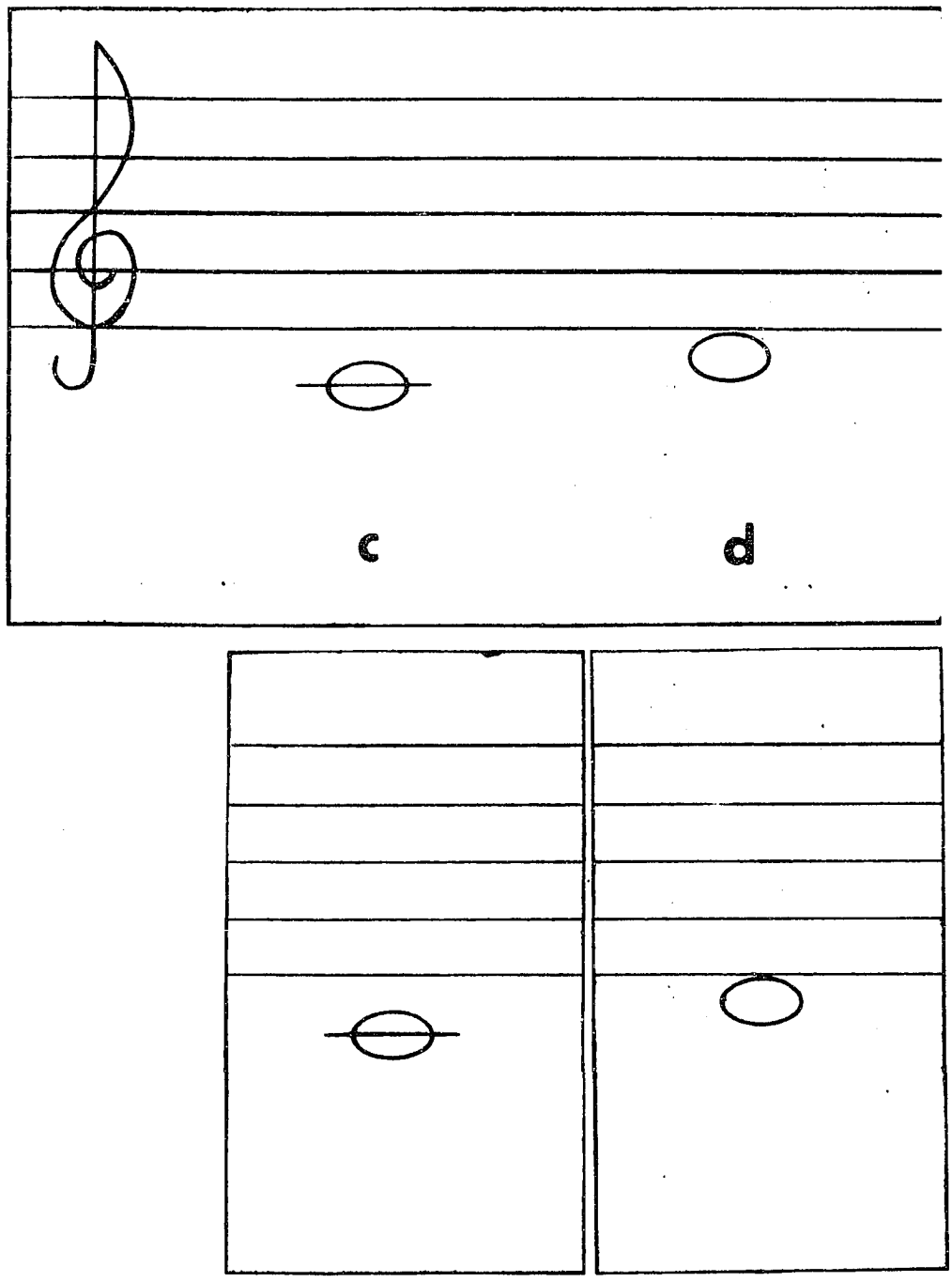

Figure 26. Part of the labeled control card with two of the C major scale grading exercise.

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c	is on the	first ledger line	below the staff.
d	is on the	first space	below the staff.
e	is on the	first line	of the staff.
f	is on the	first space	of the staff.
g	is on the	second line	of the staff.
a	is on the	second space	of the staff.
b	is on the	third line	of the staff.
c	is on the	third space	of the staff.

See Figure 27 for the appearance of the cards.

The cards may be used as follows:

A. Use sets one and two for simple matching.

B. Using set two, take a note and find its description. Use set one as the control.

C. Using set two, take a description and find its note. Use set one as the control.

D. Using set three, take a note and find the three pieces that together describe the note. Use the first set or the booklet for control.

After a child is easily able to recognize an individual note and play its appropriate bell, there are sets of card materials which will help the child recognize groups of notes. This is analogous to moving from reading single letters to recognizing groups of letters as words. The first set has pairs of cards with notes ascending in groups of threes: cde, def, efg, fga, gab, abc. (Figure 28.) The second set has groups of notes descending in threes: cba, bag, agf, gfe, fed, edc. (Figure 29.) The third set has ascending and descending groups of threes: cde, edc; def, fed; efg, gfe; fga, agf; gab, bag; abc, cba. (Figure 30.) All of the sets are played on the bells and/or sung. In the first two sets of cards identical note patterns are paired, in the third set an ascending note pattern is paired with its descending note pattern. A fourth set has three cards for each of four triads of the C major scale. One card is written in ascending form, another card in chord form and the third card in descending form. (Figure 31.) The three different ways of writing the same three notes are matched together.[9]

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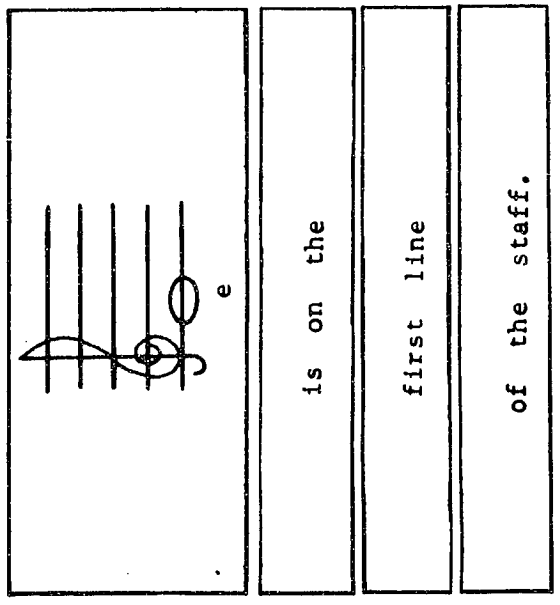

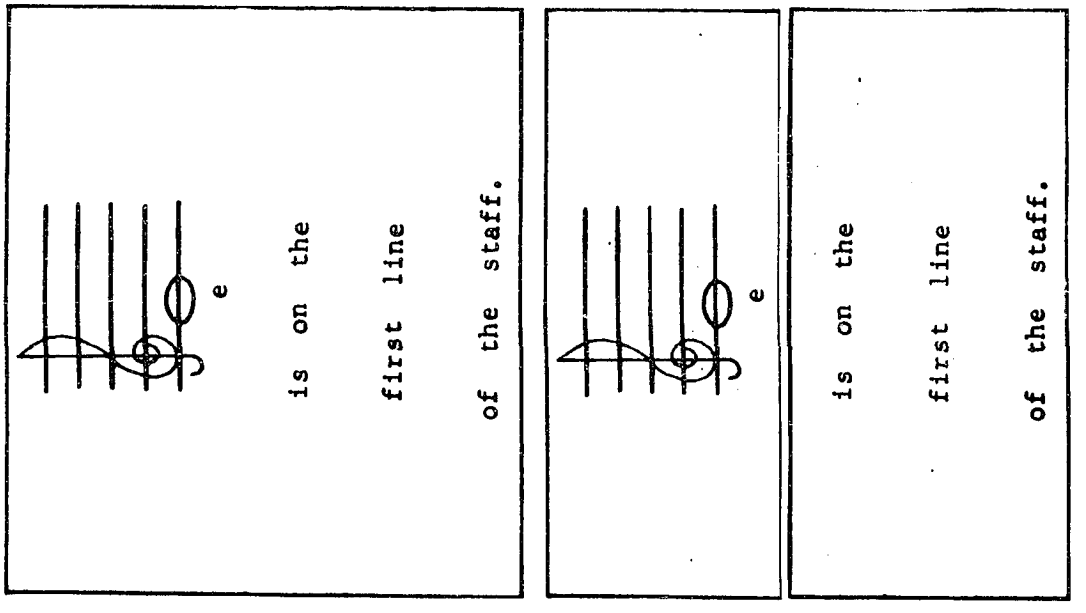

Figure 27. The cards for the note "e" shown as a whole card in Set I, cut into two pieces for Set II and into four pieces for Set III.

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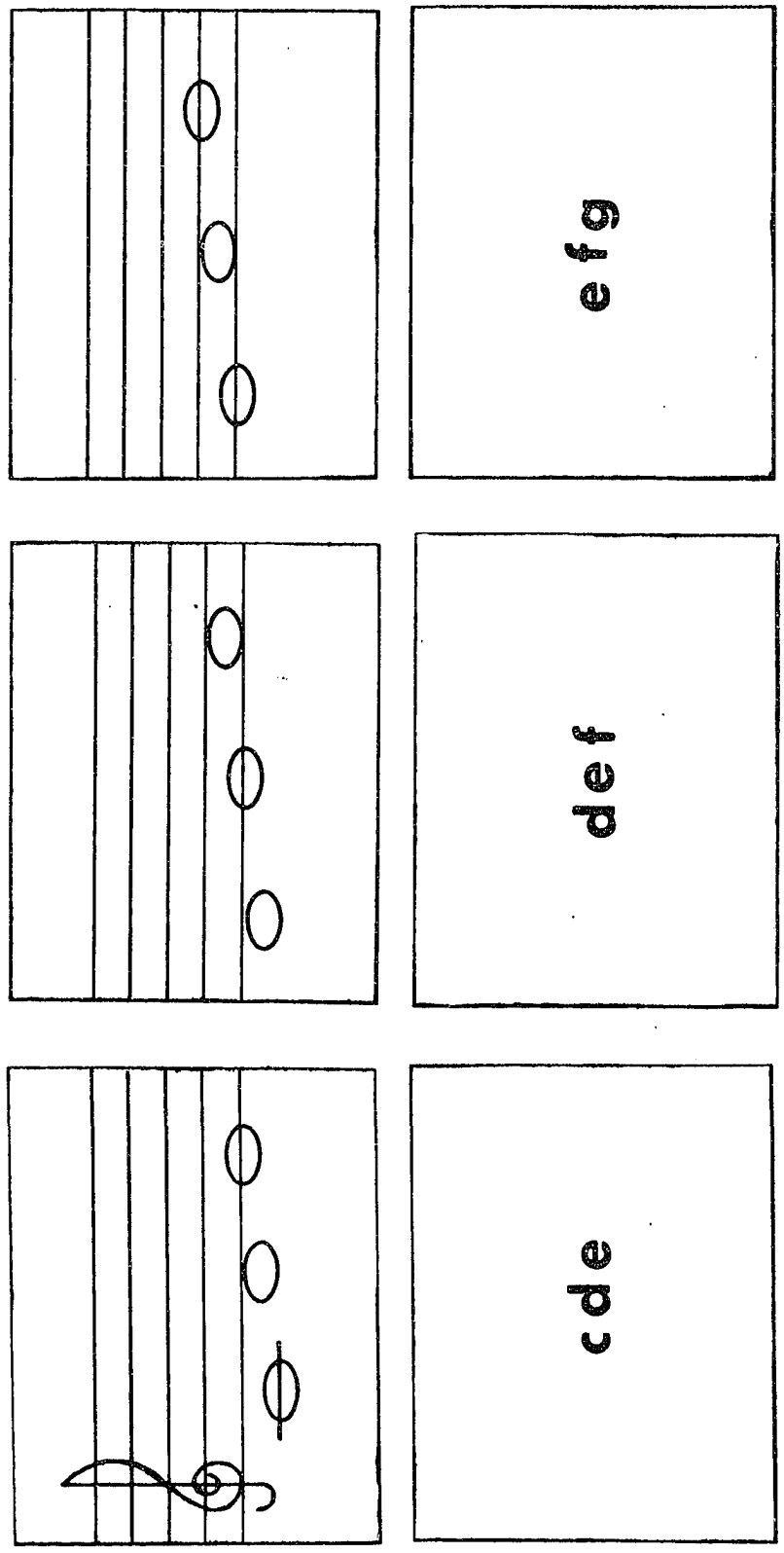

Figure 28. Three ascending note cards above with their corresponding reverse sides showing below.

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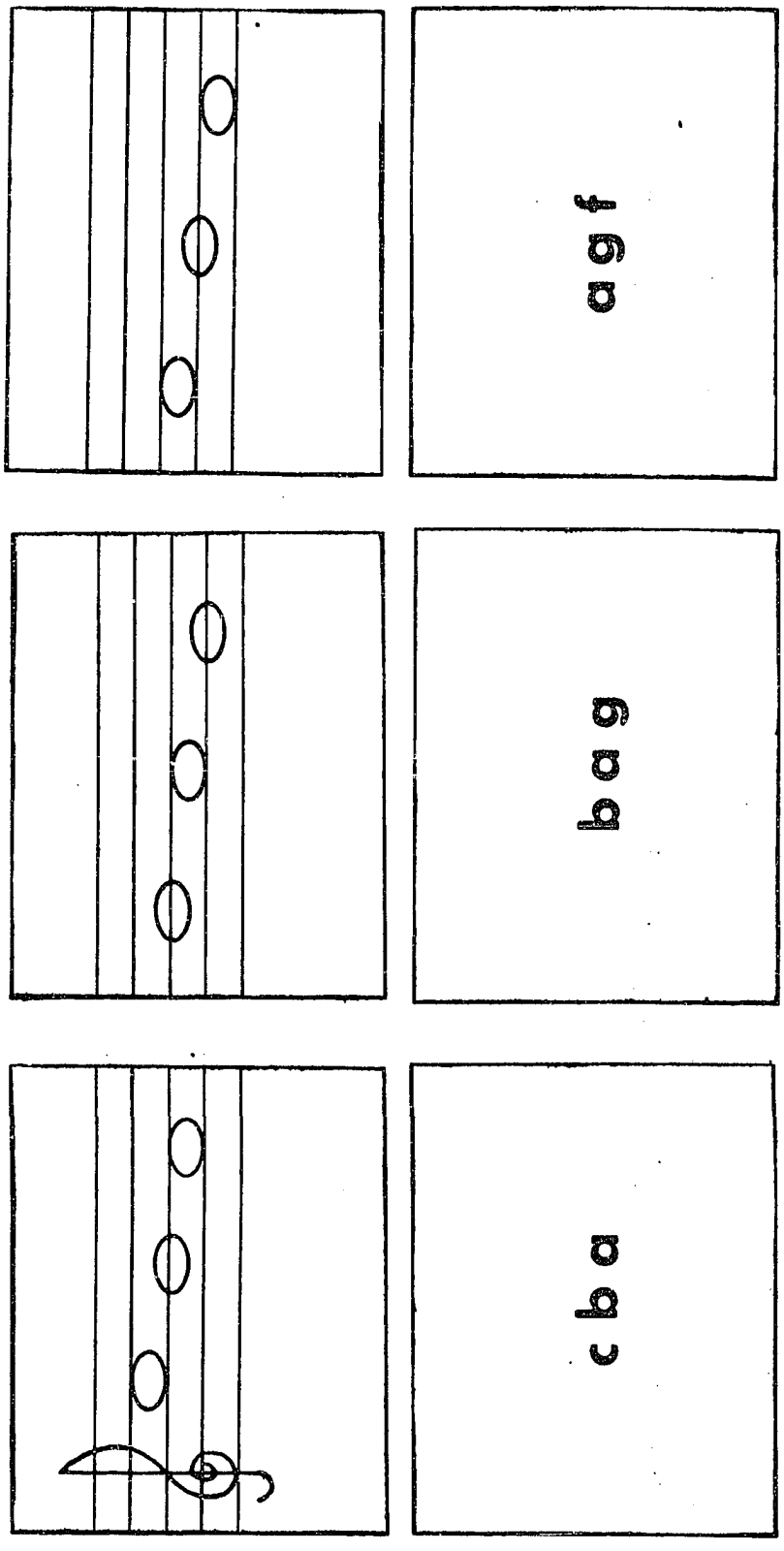

Figure 29. Three descending note cards above with their corresponding reverse sides showing below.

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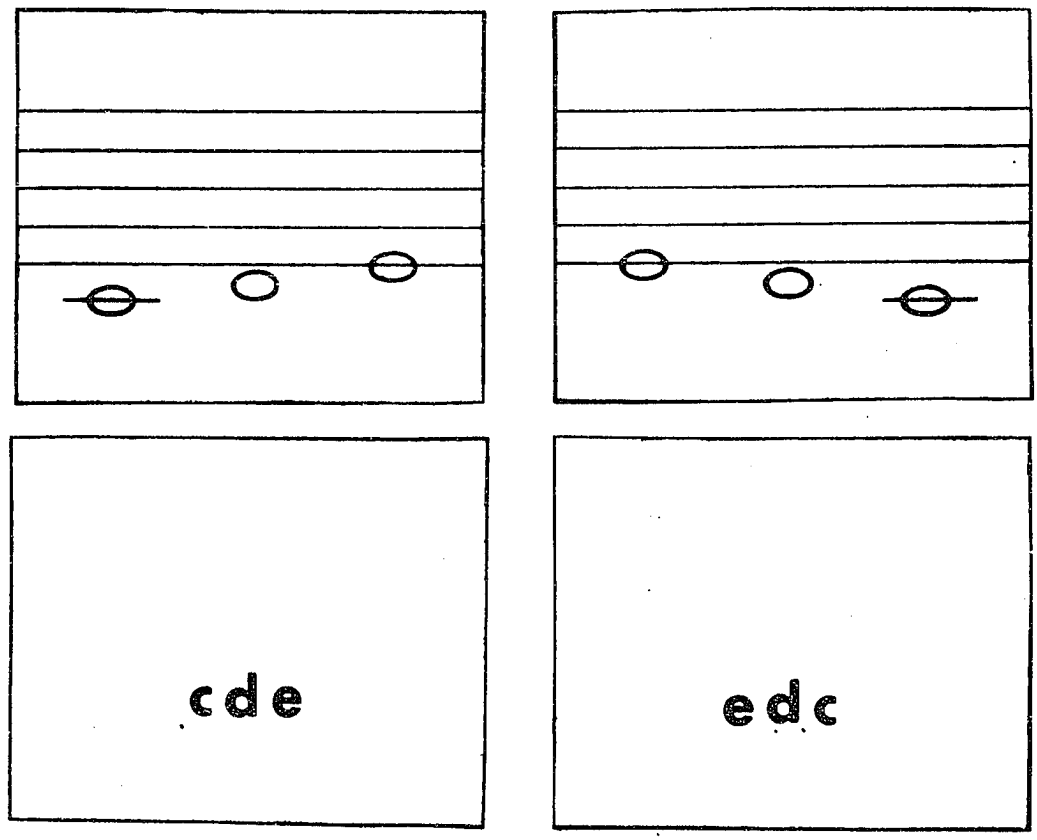

Figure 30. One pair of ascending and descending notes with the reverse side of each card showing below.

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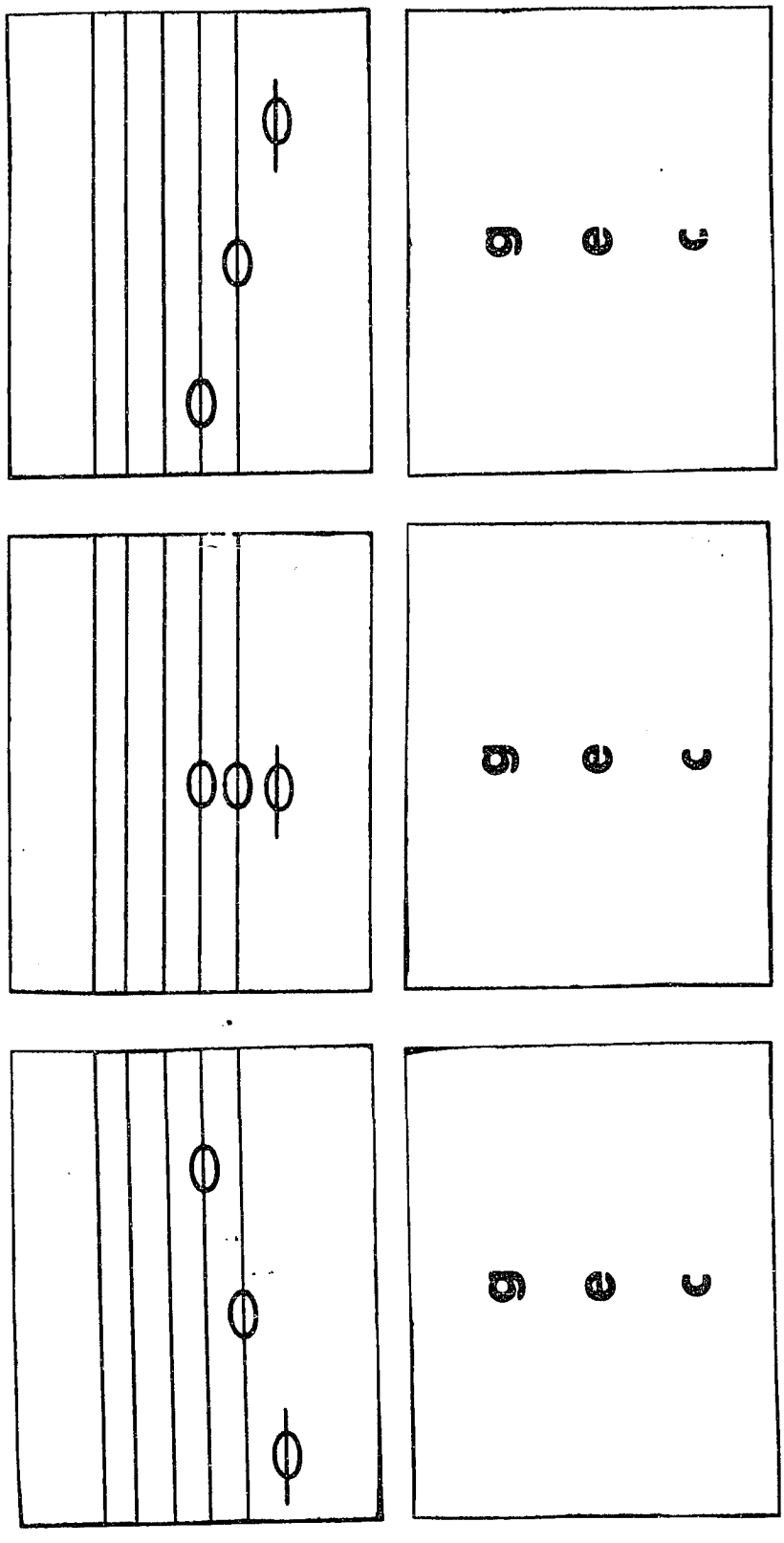

Figure 31. Three notes in ascending, triad and descending form.

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Exercises with The Broken scale also provide opportunities for reading groups of notes. The material consists of a chart showing all of the pieces of the scale and an envelope containing all of the pieces. (Figure 32.) The initial exercises include:

1. Playing and singing each piece.
2. The child selects a piece. Several pieces are played and the child identifies his/her own piece.
3. The child may reconstruct his or her piece with the green board and black discs or write it on a chalkboard or on paper.

Later exercises may have the child putting all the pieces in order. Some children may wish to make their own set for this so paper with single staffs should be available in the environment. Finally, all of the pieces may be in view, one of the pieces is played and the child indicates which one was played.[10]

Following this there are seventeen white charts using the pitches of the white bells (c to c') which may be divided into three sets. The first set has two charts (See Figure 33):

1. Ascending C major scale: c, d, e, f, g, a, b, c'.
2. Ascending and descending C major scale: c, d, e, f, g, a, b, c', b, a, g, f, e, d, c.

The second set has six charts which have orderly stepwise patterns (See Figure 34):

1. Ascending in groups of threes: c d e, d e f, e f g, f g a, g a b, a b c'.
2. Descending in groups of threes: c' b a, b a g, a g f, g f e, f e d, e d c.
3. Ascending in groups of fours: c d e f, d e f g, e f g a, f g a b, g a b c'.
4. Descending in groups of fours: c' b a g, b a g f, a g f e, g f e d, f e d c.

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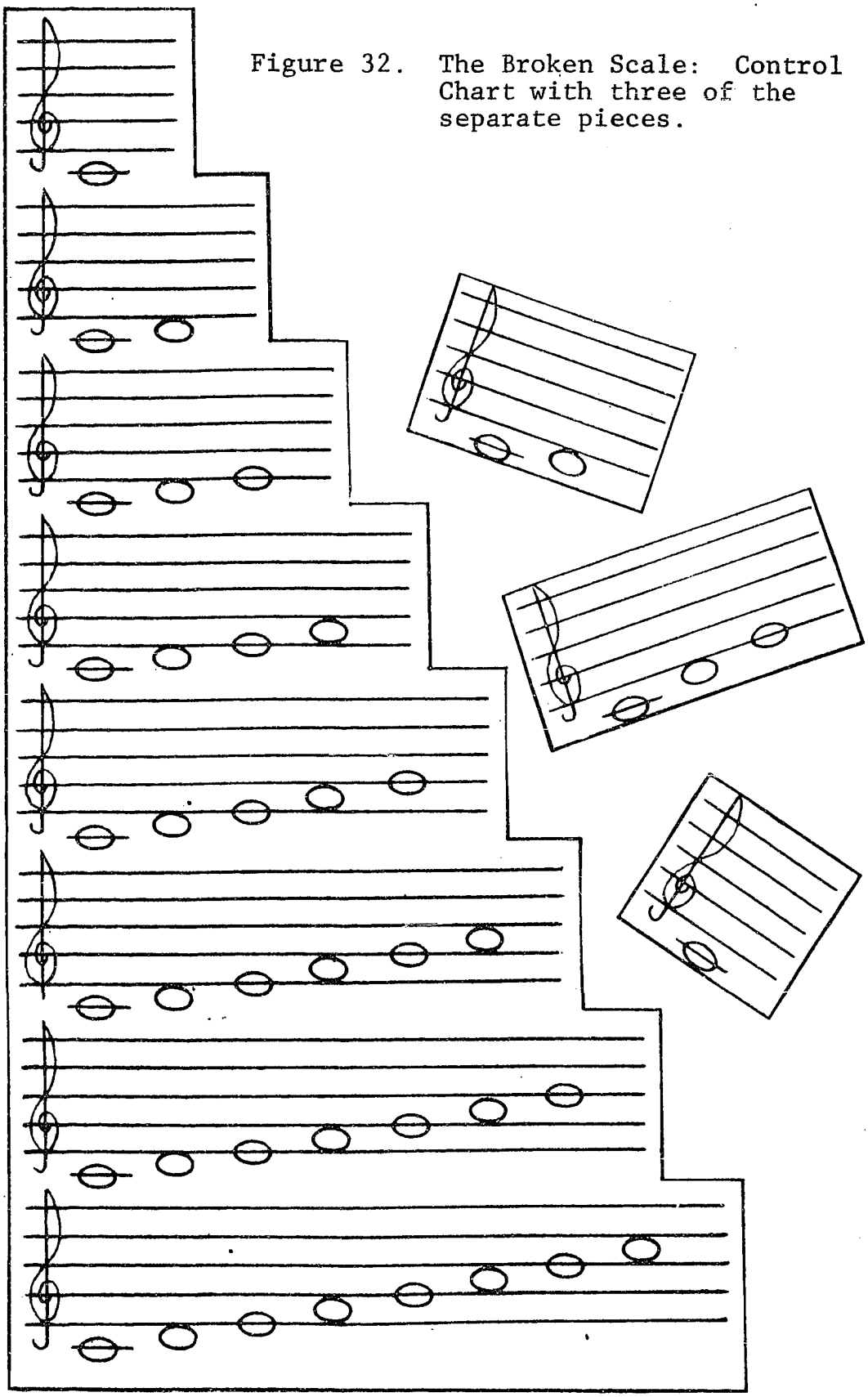

Figure 32. The Broken Scale: Control Chart with three of the separate pieces.

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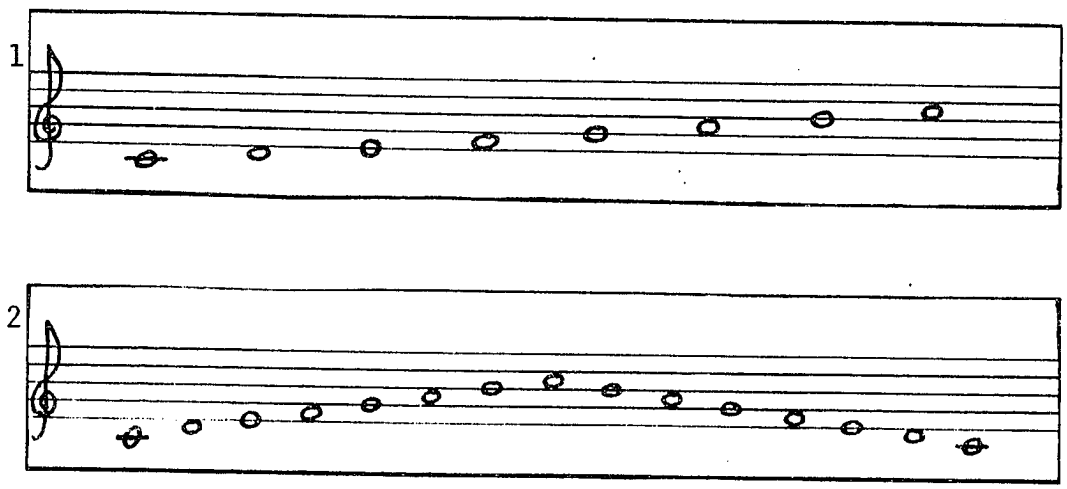

Figure 33. Set I

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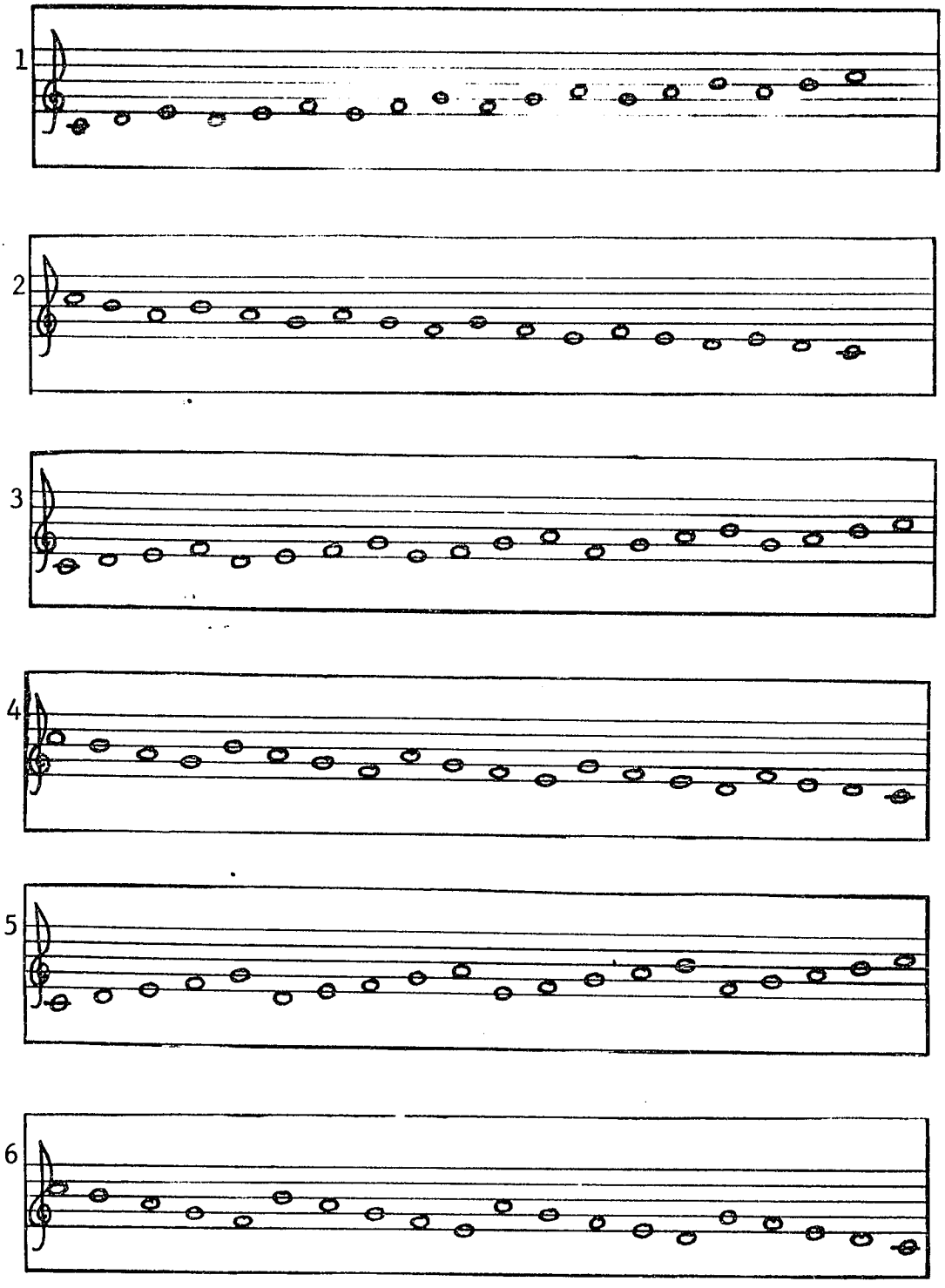

Figure 34. Set II

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5. Ascending in groups of fives: c d e f g, d e f g a, e f g a b, f g a b c'.

6. Descending in groups of fives: c' b a g f, b a g f e, a g f e d, g f e d c.

The third set has nine charts which have skips of different intervals in regular patterns (See Figure 35).

1. Ascending C major scale with middle c between every note: c, d, c, e, c, f, c, g, c, a, c, b, c, c'.

2. Its descending partner: c', b, c', a, c', g, c', f, c', e, c', d, c', c.

3. Ascending using intervals of a third: c e, d f, e g, f a, g b, a c'.

4. Descending using intervals of a third: c' a, b g, a f, g e, f d, e c.

5. Ascending using intervals of a fourth: c f, d g, e a, f b, g c'.

6. Descending using intervals of a fourth: c' g, b f, a e, g d, f c.

7. Ascending and descending using intervals of a fifth: c g, d a, e b, f c', c' f, b e, a d, g c.

8. Arpeggio: c e g c' g e c e g c' g e c.

9. Ascending and descending in successive triads: c e g, d f a, e g b, f a c', c' a f, b g e, a f d, g e c.

The pattern on the charts in the first and second sets and some of the third will already have been experienced by the children in singing exercises before they encounter the written notation. With any grouping of charts, the child chooses a chart and works it out, with help if necessary. The adult may do different charts with

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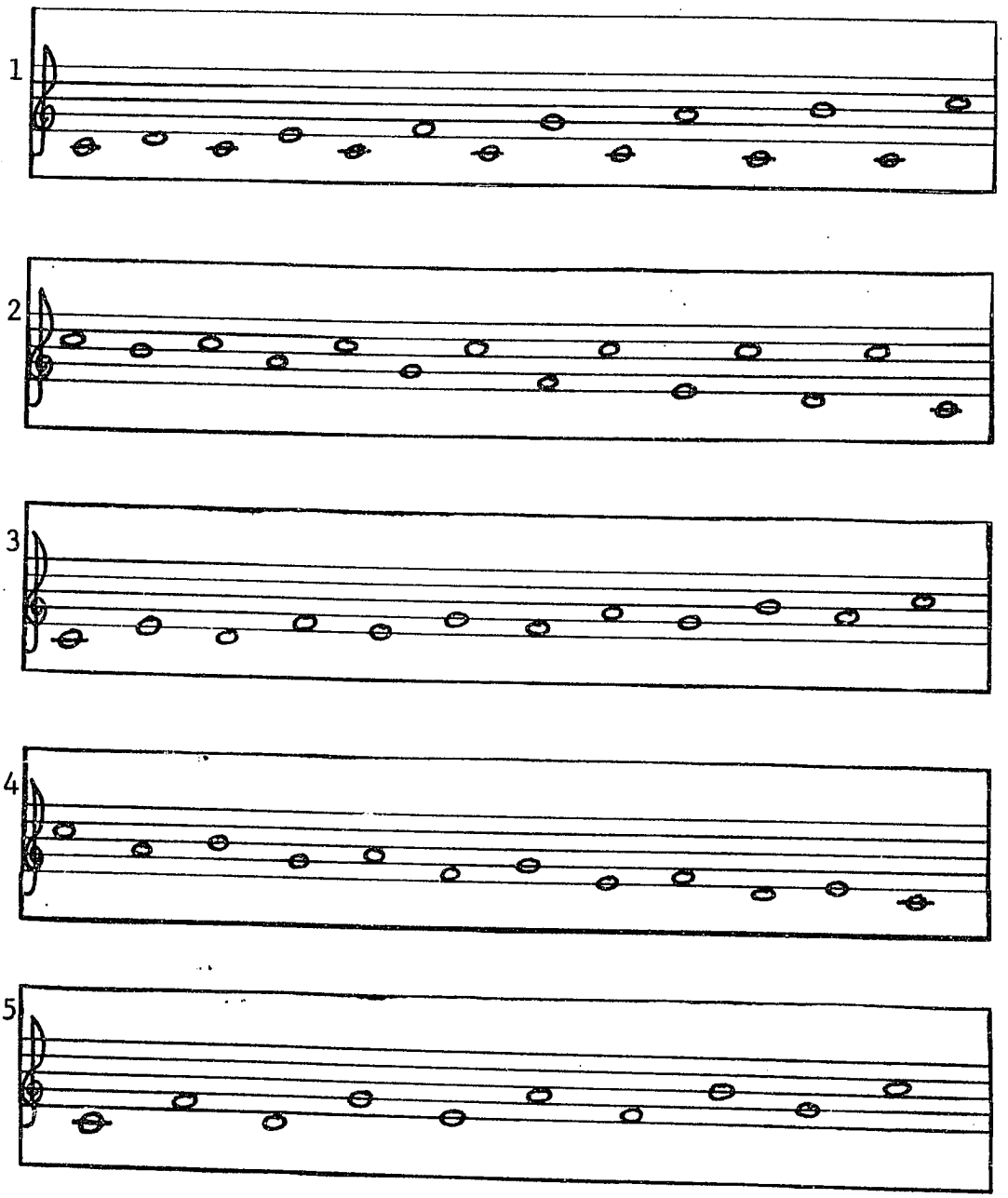

Figure 35. Set III (1-5)

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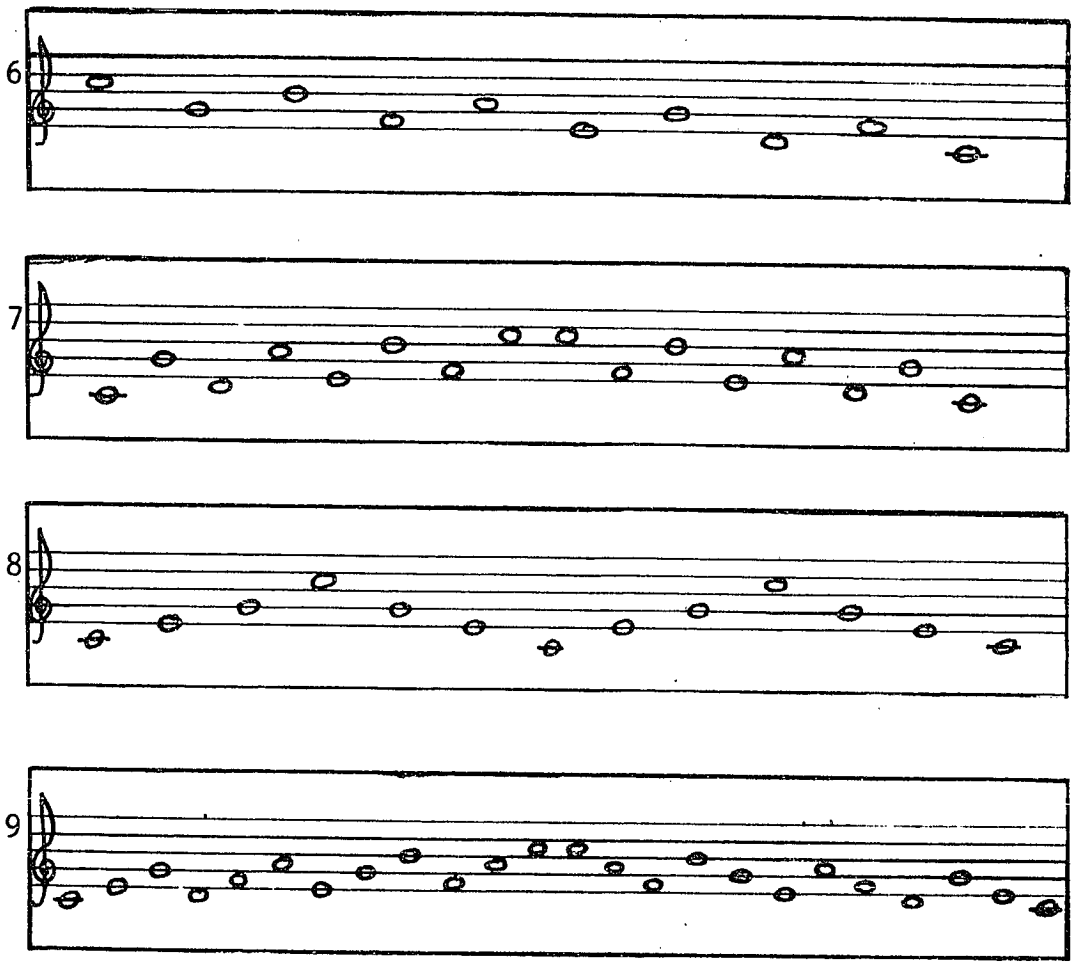

Figure 35. Set III (6-9

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different children and then the children may teach each other. Singing the charts is a part of the work. Eventually, the children will be able to sing a chart before playing it on the bells and, finally, they will be able to simply hear the music in their heads when looking at a chart. To facilitate this development, a child selects a chart, takes it some distance away from the bells, studies the chart, leaves it and walks back to the bells and plays and/or sings from memory. The chart is then retrieved and played in order to check the previous performance. This is also practice in memorizing.

> At another time three contrasting charts may be choosen and placed in view of the participating children. One of the charts is played and the children indicate which chart was played. When more difficulty is needed to keep interest going, similar charts may be used and/or more than three charts may be in view at once.[11]

> At first the singing of the charts is on "la". Later the names of the notes may be sung and finally the names of the intervals (second, third, fourth, etc., but not major, minor or perfect). At any point the children may divide into two groups and alternate the singing of the notes back and forth.[12]

The materials thus far described have dealt with the C major scale as played on the bells. The exercise to describe the introduction of the bass clef is described by Anna Maria Maccheroni:

> Up to the present, only the treble clef has been considered. Now we will see how the children come to read the bass clef. We return to the exercise with the little disks, and use two boards which are exactly

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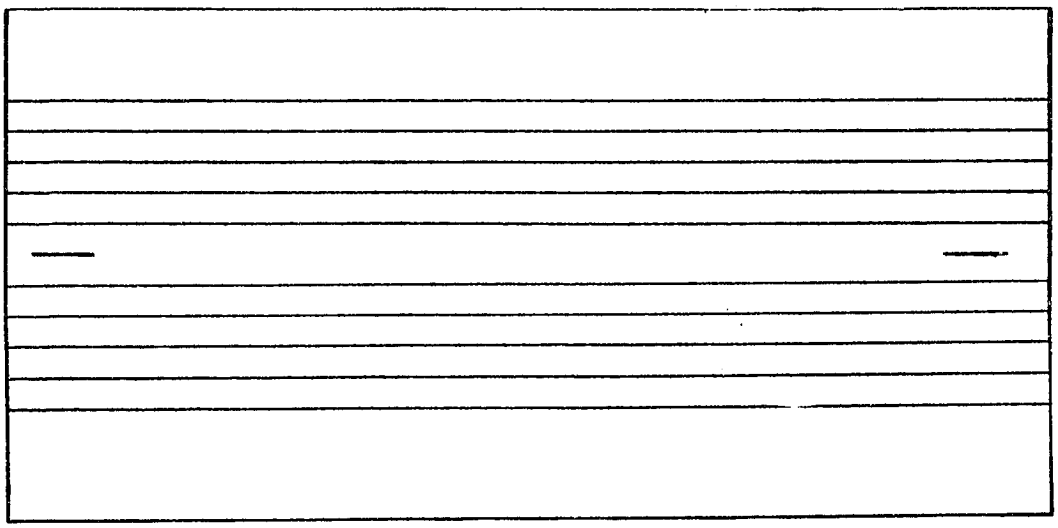
> alike and are fastened together. Five lines are on one board and lower down, another five lines are drawn on the other board. The scale of C is written on the first board and the same thing is continued on the second board . . .
>
> This is now written on two boards and we can separate the boards.. Then we place the treble clef in the right place on one board and the bass cleff on the other; and we let the child repeat the exercise with the bass clef, until he is as familiar with that as he is with the treble. Thus the child does not experience the usual difficulty in learning the bass notes, and he has overcome one of the greatest difficulties of music.[13]

The exercise as presented today is as follows:

The two green staff boards are put together. (The boards presently available are incorrectly made for this exercise. See below for the correct appearance of the boards.) If the children are accustomed to having the g



clef on the staff it may be placed there now, otherwise it may be left until the bass clef is used later in the lesson. One child may build up the scale on the upper board and another may build it going back down as

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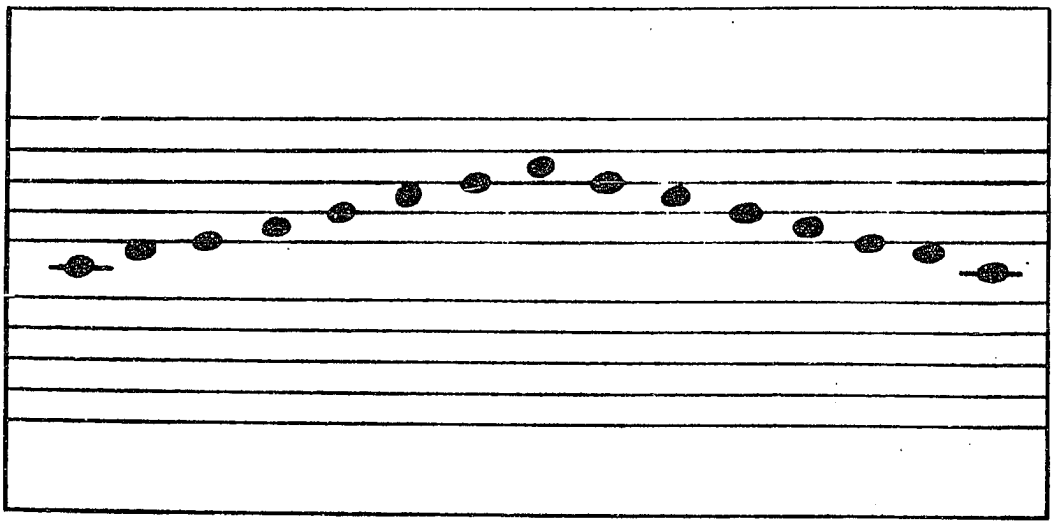
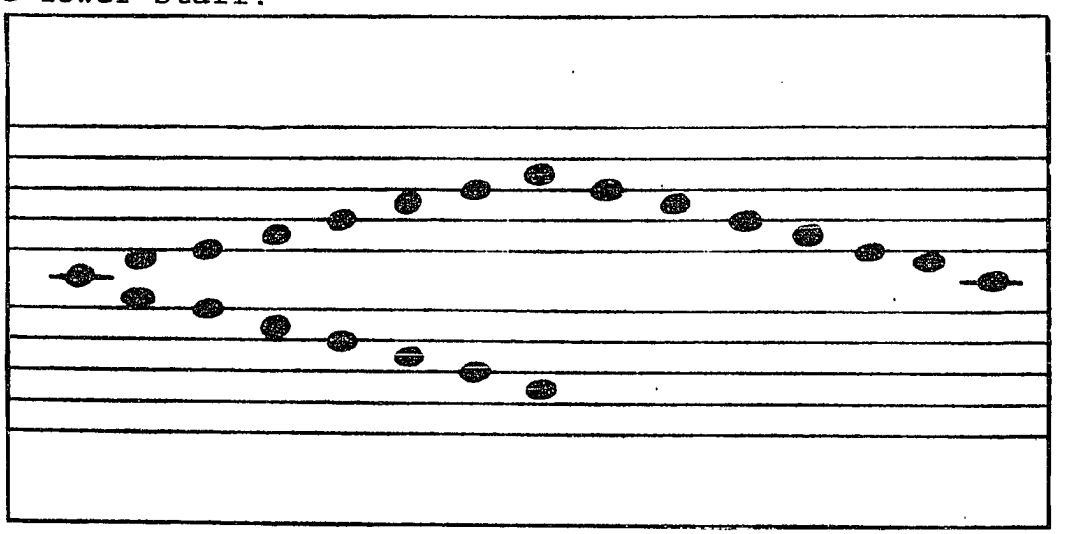
illustrated.



These notes may be played on the bells and also on a piano if one is available. The ideal instrument to use with this lesson is the miniature keyboard described earlier in this chapter. Point out the descending scale that begins on high c and explain that if a scale can be constructed going down from that c, one can also be made going down from the first c. Place the discs in the descending order of the c scale on the lines and spaces of the lower staff.



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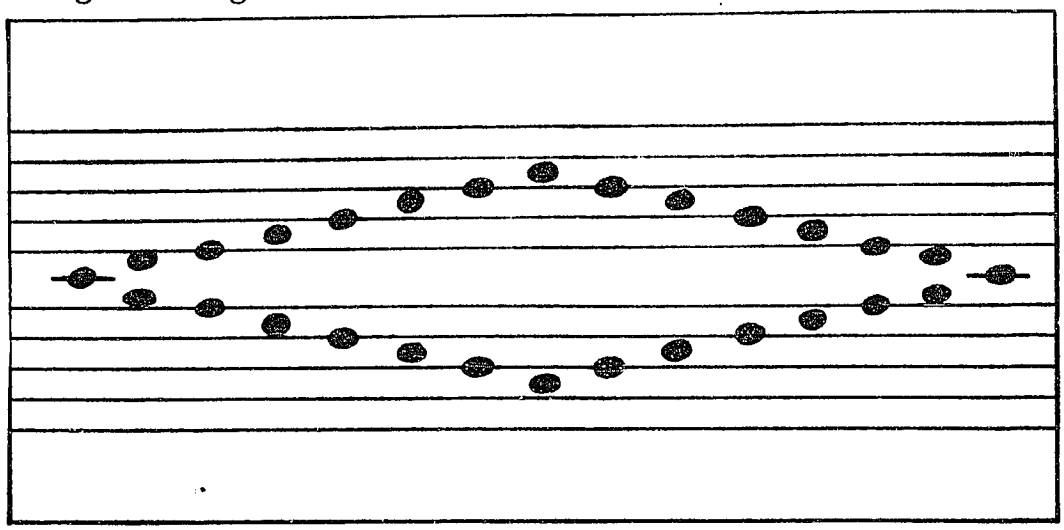
This may be played on the piano or miniature keyboard. The ascending scale may be added to the lower staff completing the figure of the rhombus.



Point out the g clef and remind or tell the children that it designates the second line of the staff as g. Show how the figure curls around and stops on the second line. Trace along the line and find the two g notes on the second line of the upper staff. If this is the first time a clef has been introduced it may be explained that clef is a French word meaning key. In this case it is the key that designates the second line of the staff as "g".

Compare the names of the notes on the third lines of both staffs. The upper staff's note name is b, the lower staff's note name is d. Explain that they are not the same because the lower staff uses a different clef. Show the f clef and give its name. Place it on the lower staff and invite the children to figure out how it indicates

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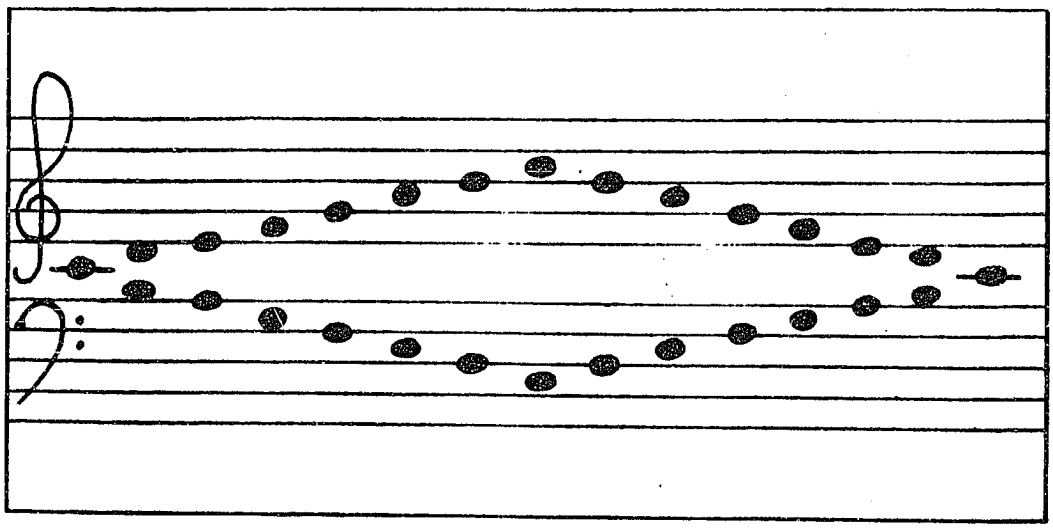
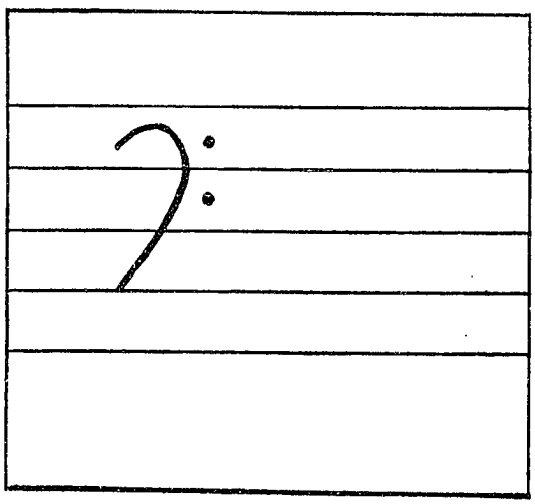
where f is.



The answer is between the two dots. Show the card.



Explore the names of the notes on the two staffs in such a way as to help the children see that, although the names of the notes are not the same on particular lines and spaces, the progression of the names of the notes are the same. The notes on the lower staff may be rearranged to appear in the same manner as the upper staff in order to facilitate this comparison.

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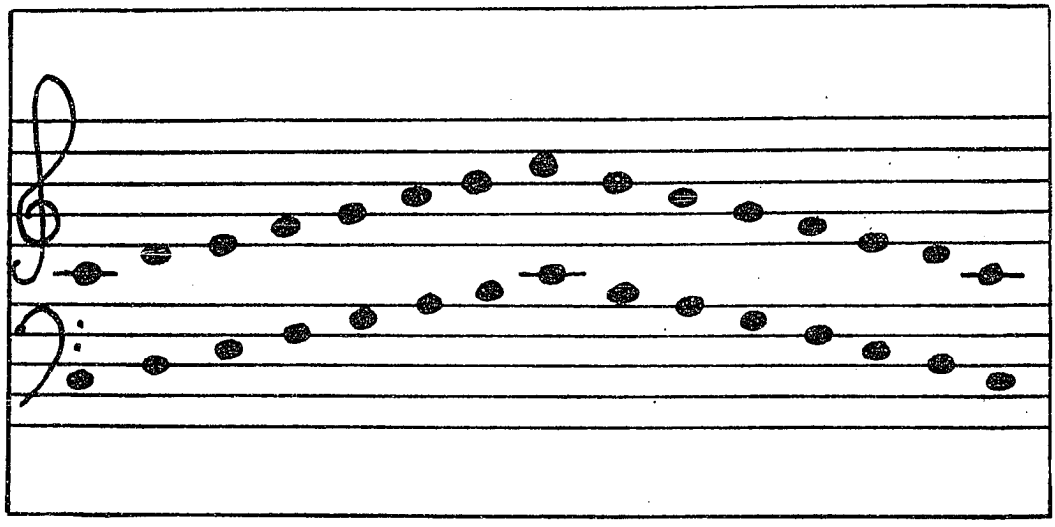

This exercise may be done every so often. It is important that the children know there is more than one clef. If a piano or miniature key board are available, the use of the left hand for the lower staff and right hand for the upper staff may be explained.

At some point it becomes appropriate to help children learn how to write down their music.

> Several children may be invited to watch the adult place black discs on the lines and spaces of a green staff board. The adult informs the children that what is written will now be played. (e.g., ceggaag) All involved in the lesson may have a turn. Then the reverse process is tried where a short musical phrase is played first and then notated. The trick is to have a child play the music twice the same way. If the child has played it the same way twice, the chances are he or she will remember it while it is notated.[14]

After the phrase or piece has been notated, it is played again on the bells. One of the advantages of using the board and discs is that errors may be corrected quickly and the creative process may continue unmarred by glaring

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erasures and spoiled papers. After a piece has been notated to the satisfaction of the child, "he or she may write down the composition on staff paper and enter it into his or her music notebook. An opus number may be given."[15] Some pieces are given titles and sometimes lyrics.

> In this activity the children are notating only pitch, not rhythm. If a child is really interested then the disks with the holes may be used to indicate notes which last longer, but it is best to avoid this now. Rhythm notation is studied separately. The notation of pitch and rhythm together generally comes later when the children are elementary school aged.[16]

> As the children get good at this process, it is important that they continue to improvise. An analogy may be made with speaking and writing. When people start writing they do not stop talking. In the same way, when children begin to notate music, they should still continue to improvise on the musical instruments available in the Montesosri environment.[17]

As children work together in the notation process, one often plays while another one notates. This is melodic dictation. If it is necessary to help them get to this point, the following procedure could be used:

1. Notate two widely spaced bell pitches on a staff and play each note on the bells while pointing to the note on the staff. Then one of the pitches is played and the children indicate which note on the staff was played. Continue in this manner, adding more notes as the children are able to handle more. At first the children watch as the bells are played, eventually they will be

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able to indicate the proper notation without looking at the bells.

2. When the children are ready, they may begin writing the notes on staff paper as they are played on the bells. In this case, the note sequence should be written out ahead of time so that the children will have a control sheet with which to check their work if they wish.

3. At a still later time, the notes that will be used may be shown to the children to start with, but then are not in view when the bells are played and the children are notating the pitches.

4. Finally, the children notate the pitches without having first seen which of the notes are going to be used.

The above progression may also be used for dictation of two or three stepwise pitches at a time, such as cde or aba. Then intervals could be used, followed by any of the patterns of the white boards and, finally, the melodies of simple songs.

Just as one's first reading material uses mainly words from the children's spoken vocabulary, so the first melodic material presented for the children to read and play at the bells are the melodies of songs they already know and may have already played by ear on the bells or

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other instruments in the class. The melodies of the songs are presented on large cards with notation large enough to be easily readable while playing the bells. There should be only one song per card. The children practice these songs until they can play them well. Identical cards, only without titles and words, are also provided. The children play them on the bells and identify the song. Finally, they simply look at the music and identify it without playing it. Maccheroni described a similar exercise in a lecture in 1921.

> There are also cards with simple little melodies written on them; and to show how simple they are, it is sufficient to play one. Some are very simple indeed, so one can imagine that the children would find great pleasure in reading this melody and playing it, because it would represent no diffidulty to them. A child will take up the card he wants, and carry it off to the corner of the room to study it. When he understands it perfectly, he stands it up in front of the bells and plays it as though he were reading it from the card, with great dignity; but in reality he read it well before. Then he will copy it into his own book, writing the name under each note. As there are more than 100 of these cards, it represents a great reading exercise when a child has read them all.[18]

When a child indicates an interest in knowing about black bells, he or she may be shown the pentatonic and chromatic scales and/or their sharp and flat names. The sharp and flat names would be given after a child is familiar with the names of the white bells (cdefgabc'). The pentatonic and chromatic scales would be introduced after the child is familiar with the diatonic scale of

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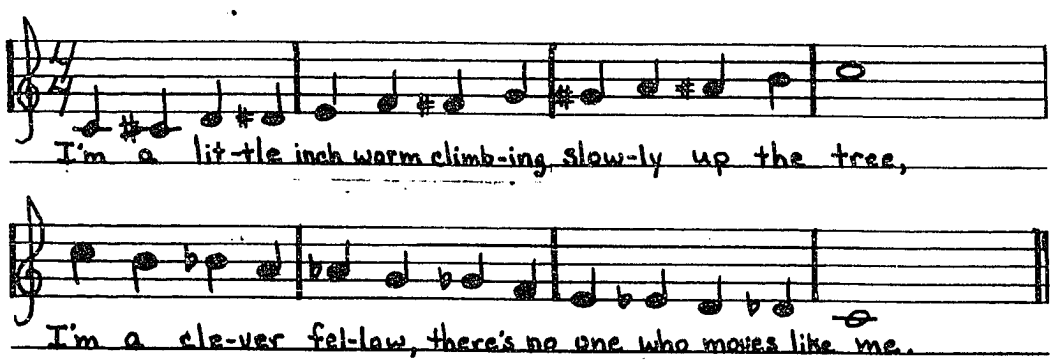
C major.

> When taken alone, the black bells form the pentatonic scale. The pitches may be played, sung and counted. If the child already knows the name for the pentagon in the geometric cabinet, the adult may elicit the name of the five sided figure from the child and then go on to explain that the figure with five sides is the pentagon, the scale with five tones is the pentatonic scale. This scale is very useful for creative work as everything played with it sounds harmonious. It is not necessary to do matching and grading exercises with the black bells alone.[19]

When the black bells are put in their proper places on the green boards and the white and black bells are played in order, the result is the chromatic scale. It has a very different sound from either the diatonic or the pentatonic scale. The word chromatic means colorful.

The diatonic, pentatonic and chromatic scales may all be included in a three period lesson. All of the scales may be sung on "la". A special song for the chromatic scale was composed by Sanford Jones.[20]



Similar treatment may be given to the whole tone scale.[21]

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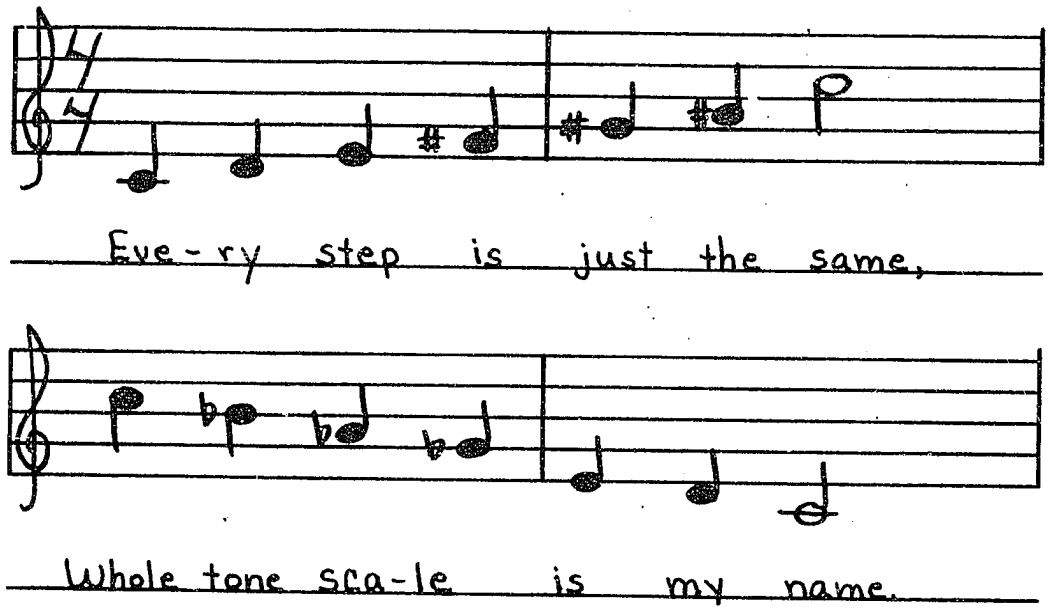

The sharp and flat names are given only to the black bells at the 2½ to 5 year old levels. Children who wish to pursue this further will later discover that the white bells may also have sharp and flat names. If the naming lesson is being given at a verbal level only, then the sharp and flat symbols are not shown. Children being introduced to the names of the black bells will already know the names of the white bells. The lesson may proceed as follows:

1. Tell the children that the names of the black bells will be given and that they are very interesting because each of them has two names.

2. Indicate the lowest black bell and play it. Give the names, c sharp and d flat.

3. Play c, then c sharp. Say or sing on the proper pitch, "This is c. This is c sharp. It is a little bit higher than c." Explain

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that the sharp part of the name means a little higher.

4. Play d, then d flat. Say or sing, "This is d. This is d flat. It is a little bit lower than d." Explain that the flat part of the name means a little bit lower.

5. Ask the children if there is another black bell they would like named. Continue the lesson with the same procedure as above.[22]

The above lesson may be given to children as early as two and one half to three years of age. Later, the wooden symbols for the sharps and flats may be introduced along with the black disks which have the sharp name of a pitch on one side and the flat name on the other. Still later, the children are shown how to notate sharps and flats on the green boards and then on staff paper. When appropriate, the natural symbol is shown. It must be pointed out that the symbols for sharps, flats and naturals are placed in front of the notes when written, but said after the name of the note in spoken language.

When the black bells have been introduced with either the chromatic scales and/or with the sharp and flat names, the same sequence of matching and grading exercises and games that were done with the diatonic C major scale may be used. The half step pattern of the chromatic scale may be shown.

If the children are curious about the pattern of the pentatonic scale, they may be encouraged to figure it

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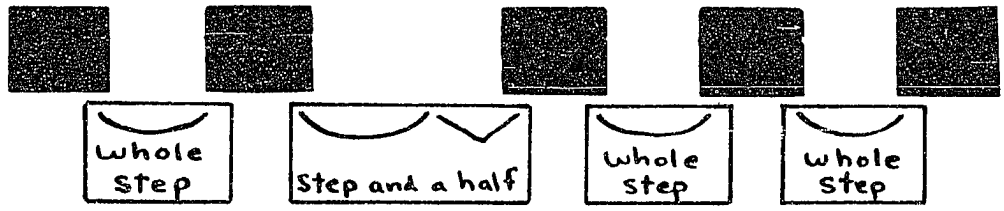
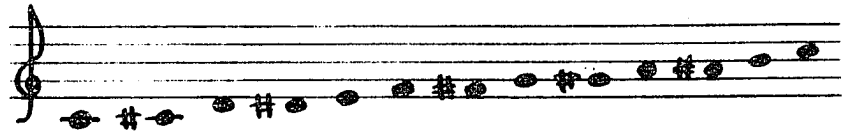
out for themselves. It has three whole steps and one step and a half.

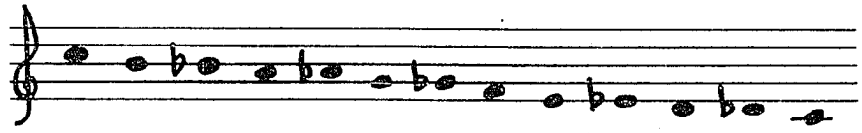


If the children wish to notate the chromatic scale, they may experiment with the use of sharps and flats. They will make the following discoveries.

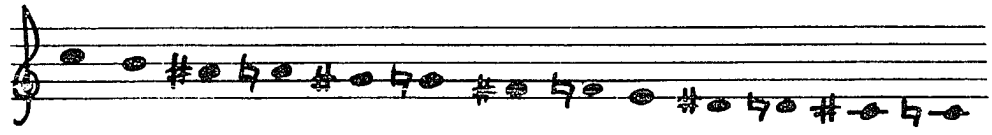


Five sharps are needed for the ascending chromatic scale.

Five flats and five naturals are needed. This is not as efficient a way to notate the ascending chromatic scale.



Five flats are needed for the descending chromatic scale.



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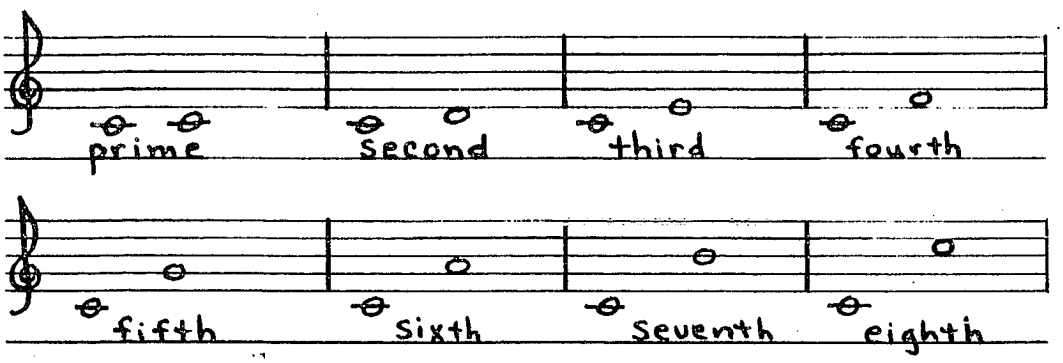
Five sharps and five naturals are needed. This is not as efficient a way to notate the descending chromatic scale.[23]

Intervals may be introduced after grading of the C major scale has been mastered. At the beginning, the interval names used are prime, second, third, fourth, fifth, sixth, seventh and octave. The adjectives, perfect, major and minor, are not used at this time.



The intervals are introduced in order, one at a time, in different lessons. The interval is played in isolation on the bells and then named. The name of the interval is determined by counting the first pitch, the intervening pitches of the diatonic scale, and the last pitch. e.g.

c	d	e	f	g
1	2	3	4	5

} c to g is a fifth

A song may be composed which uses the interval exclusively. The song is sung for the children, then all sing it together. The children are encouraged to write their own songs. After a few of the intervals have been

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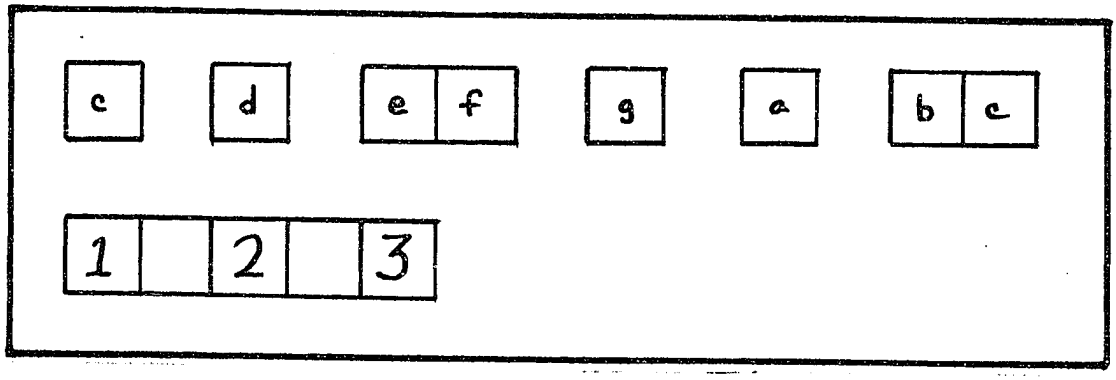
introduced, it is possible that the children may compose without the adult having to play and sing a piece to illustrate. The following songs are examples from a workshop given by Sanford Jones in Cleveland, Ohio in the summer of 1972 (see Figure 36).

The sensorial transposition of simple songs may be begun anytime after a child is able to play simple songs by ear on the bells. For a song which uses the first three notes of a major scale, a card may be prepared on which the numbers 1, 2 and 3 are written. This card is placed in front of the bells on the bell cabinet.



A child is invited to play a melody which uses the first three notes of a major scale such as Hot Cross Buns. After the child has played the piece it is pointed out that the piece used the bells directly in front of the numbers. The chart for the note progression of the song may be placed in the place for music cards directly behind the bells.

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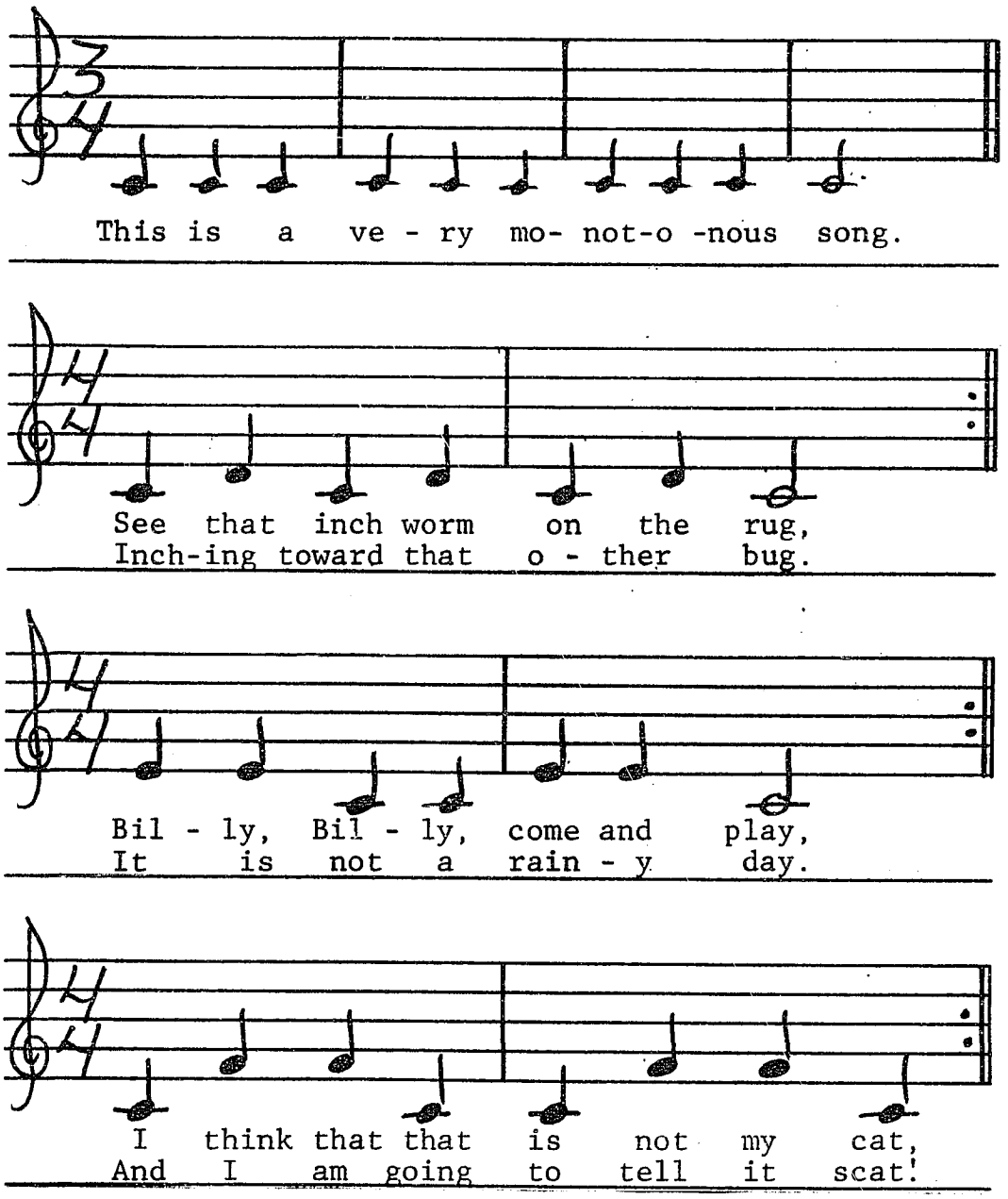
This is a ve - ry mo- not-o -nous song.
See that inch worm on the rug,
Inch-ing toward that o - ther bug.
Bil - ly, Bil - ly, come and play,
It is not a rain - y day.
I think that that is not my cat,
And I am going to tell it scat!

Figure 36a. Songs for primes, seconds, thirds and fourths.

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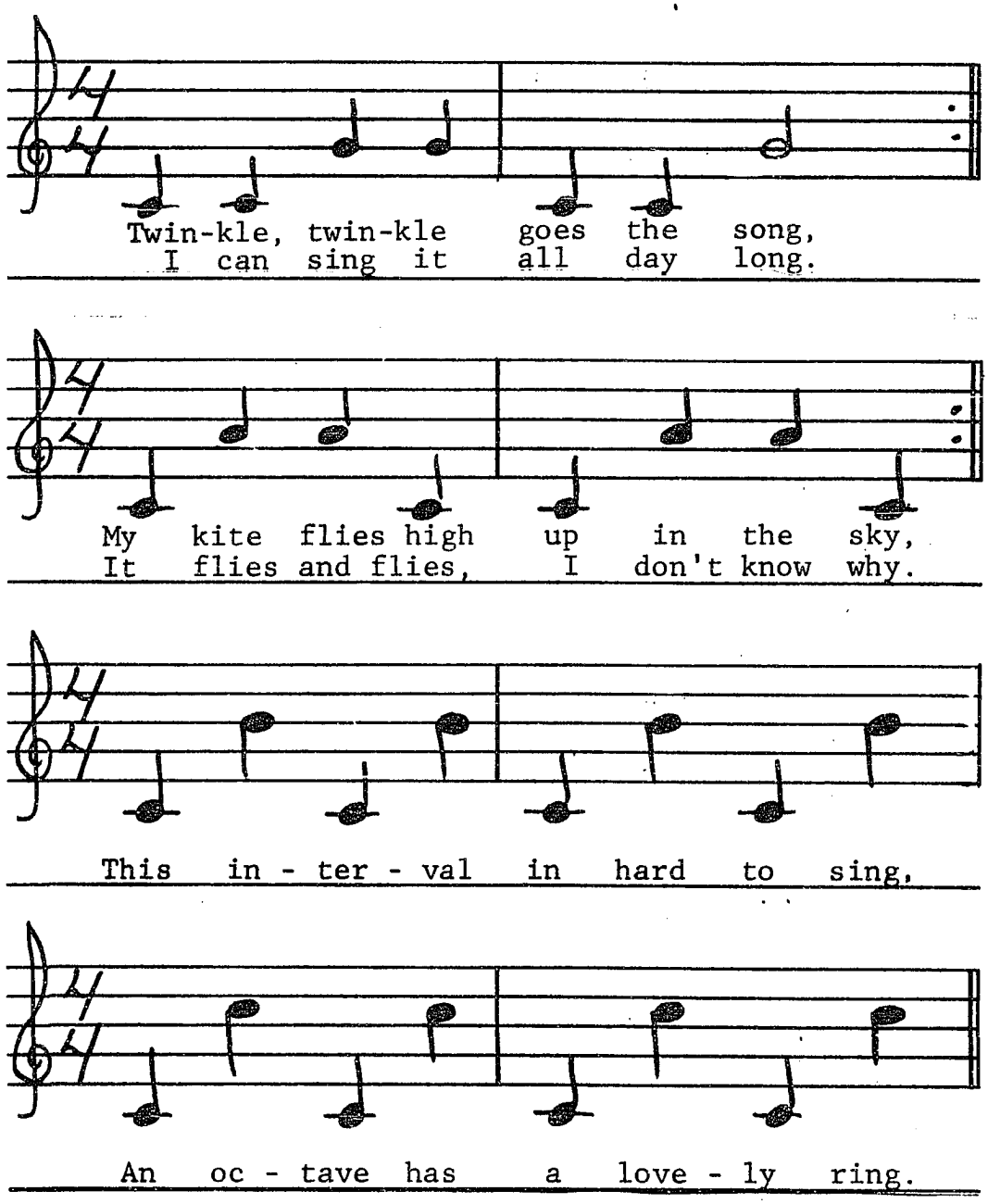
Twin-kle, twin-kle goes the song,
I can sing it all day long.
My kite flies high up in the sky,
It flies and flies, I don't know why.
This in - ter - val in hard to sing,
An oc - tave has a love - ly ring.

Figure 36b. Songs for fifths, sixths, sevenths and octaves.

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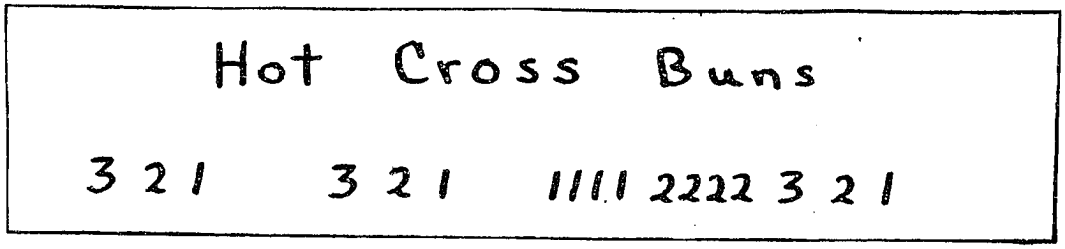
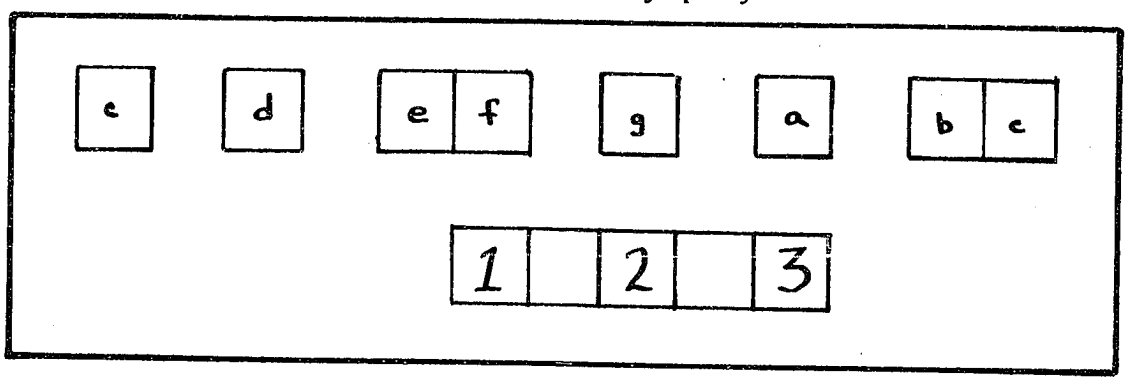
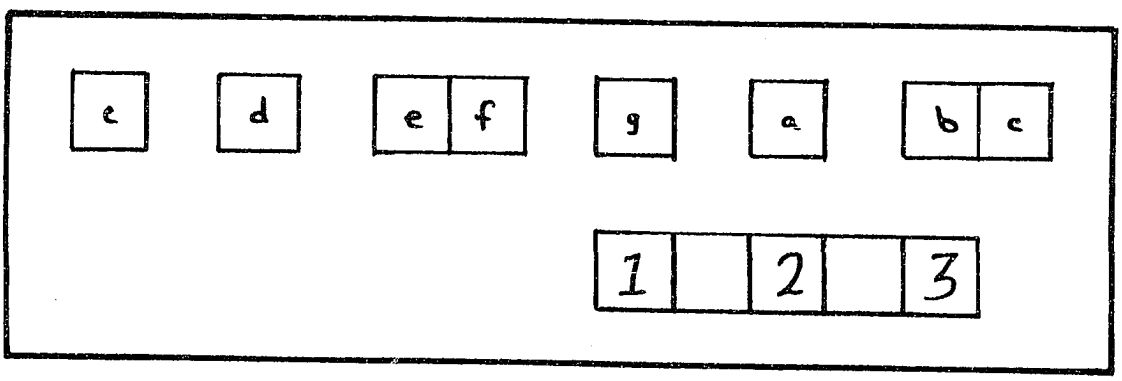


The chart in front of the bells may be moved until another place is found where there is a bell for each of three numbers on the card and the melody played.



One more position may be found where the melody may be played.



If the child does not suggest adding the sharps and flats, it may be saved for a later lesson. Adding the sharps and flats gives many more possibilities for the playing of the melody.

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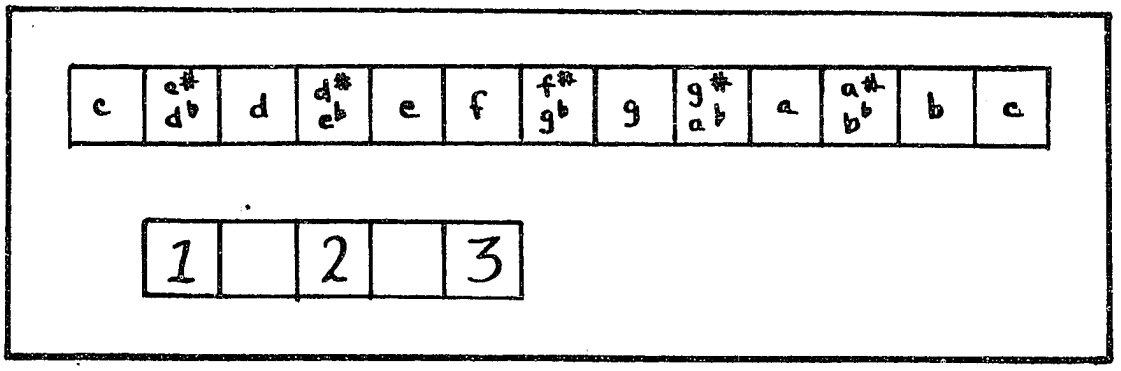

If the child wishes to see what the melody would look like written on the staff in the different positions, cards may be shown which have the songs written in different keys.

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CHAPTER VI - FOOTNOTES

[1]Elizabeth G. Hall, music lecture from "Children's House Training Course" (2½ to 7 years old) 2nd course of the Montessori Institute of Cleveland, Cleveland, Ohio, March, 1979.

[2]Maria Montessori, Haandbog I Montessori Metoden, trans. by C. A. Bang, (Copenhagen: V Pios Boghandel - Povl Branner, 1919), p. 93.

[3]Vittoria Fresco-Galeazzi, "Course on Music Education", lecture at the Sixth International Training Course at the Centro Internazionale Studi Montessoriani, Bergamo, Italy, Spring 1967.

[4]Maria Montessori, The Montessori Elementary Material, trans. by Arthur Livingston, (Cambridge: Robert Bentley, Inc., 1965), p. 326.

[5]Maria Montessori, Haandbog I Montessori Metoden, p. 89.

[6]Hall, music lectures, March, 1979.

[7]Hall, music lectures, March, 1979.

[8]Maria Montessori, "Analysis," The Call of Education, Vol. II, No. 2 (July, 1925), p. 98.

[9]Fresco-Galeazzi, "Music Education", Spring 1967.

[10]Fresco-Galeazzi, "Music Education", Spring 1967.

[11]Hall, music lectures, March, 1979.

[12]Sanford Jones, music workshop sponsored by the Montessori Development Foundation, Cleveland Heights, Ohio, Summer 1972.

[13]Anna Maria Maccheroni, lecture 37 at the London Montessori Training Course (unpublished manuscript, from AMI's private collection), June 28, 1921, pp. 6-7.

[14]Hall, music lecture, March, 1979.

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[15]Martha Braden Jones, introductory pamphlet accompanying "Music Through History" records, (available through Martha Braden Jones, 780 West End Ave., Apt. 7A, New York, New York 10025) p. 1.

[16]Hall, music lecture, March, 1979.

[17]Hall, music lecture, March, 1979.

[18]Maccheroni, lecture 37, p. 6.

[19]Hall, music lecture, March, 1979.

[20]Sanford Jones, music workshop, Summer 1972.

[21]Sanford Jones, music workshop, Summer 1972.

[22]Hall, music lecture, March, 1979.

[23]Anna Maria Maccheroni, Il Primo Libro Del Bambino (unpublished manuscript, from AMI's private collection), p. 10.

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CHAPTER VII

MOVEMENT

Before the human body can be used as an instrument of expression, an individual must attain a degree of control over it. Montessori understood the importance of this development.

> One of the things that the tiny child has to gain control over is the control of his own equilibrium. To get this balance it is necessary for him to make efforts. Carrying the child when it is not necessary, taking him in a perambulator or leading him by the hand, when he can walk by himself, these all present an obstacle to his acquiring of this balance, because the acquiring of this balance, of this natural capacity, is never given by slight or moderate effort, it always requires a great effort.[1]

The design of a Montessori environment and the materials and activities available within that environment provide children with opportunities to expend great effort as an aid to their development. The environment is full of shelves, tables and chairs placed in such a way that children must be constantly aware and self controlled in their movements as they move through the room. Many small rugs or mats are available for the children's work and may be placed on almost any free floor space in the environment. This further complicates the task of moving about the room. Many materials require several trips from

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shelves to work spaces as only one item may be carried at a time. Other materials which are often breakable are carried on trays. With these materials, not only must the children wend their way carefully from shelf to work-space through the classroom maze, they must also put forth effort to maintain the items in balance on the tray. Specifically designed preliminary movement activities, such as walking in and out among mats, carrying mats, trays or chairs, etc., help the newcomers to the class become conscious of their own movements and, therefore, more able to control them. The great effort required aids in the development of finer and finer muscle coordination, while the intense attention aids the development of concentration.

Another important aspect of the environment is that its floor space is largely uncarpeted. This means that there is an auditory consequence for careless movement. Many movement exercises emphasize soundlessness as a means to call forth greater effort and muscle control on the part of the children. Opening and closing a door and setting objects down noiselessly are examples. The materials themselves are designed to call forth greater and greater precision in movement. Increasing mastery of movement results in feelings of competance and self-assurance.

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Specific exercises for body control include:

1. The children are directed to move around the room. When a bell rings softly they stop and look at the adult. (In addition to gaining bodily control this exercise also helps the children attune themselves to the sound of the bell which is used to gain their attention when an announcement is to be made.)

2. The adult or leader moves around the room with the children. When the leader stops, everyone stops. (This exercise requires children to watch the leader all the time they are moving, thus dividing their visual attention between the leader's movements and their own movements.)

3. The children move around the room without touching anyone or anything. When a bell rings, they stop and reach out to touch something.

4. The children move around the room. They change direction when a signal is given. The signal could be a particular sound or a motion made by the leader.

Exercises for body awareness include:

1. The children close their eyes and then touch one part of their body to another part. (e.g., Touch your nose with one finger. Touch your right elbow to your left knee.)

2. Ask the children to figure out a way to say "hello" with different parts of their body, such as an arm, leg, nose, elbow, etc.

3. Have a particular body part, such as the stomach, heels, knees or ears "lead" the children around the room.

Variations on body control and awareness exercises are limited only by the ingenuity of the adult and class. Specific listening exercises which help prepare children for the Silence Exercise are described in Chapter IV. The

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Silence Exercise, which calls for the cessation of almost all voluntary movement, could be considered the ultimate movement exercise because cessation of movement through voluntary control is most difficult to achieve.

Montessori was especially interested in helping children acquire equilibrium. She devised an exercise to be used daily which is now known as "Walking on the Line", after observing children's interest and delight in walking on curbs or along any line they could find.

> Suppose, for instance, that we have children who fall very easily and do not walk well, instead of sympathizing with them when they fall, or telling them to walk more carefully every time you see them walk badly we should give them exercises which indirectly establish these powers. Thus the children will be more free when they walk . . .[2]

> In our schools we can give an aid to the acquiring of this difficult thing - equilibrium. For this we devise a certain kind of exercise, and a certain way in which the children should be shod. Shoes with very soft soles, such as the dancers in the theatres use, or better still bare feet. Then we must find a free space in which the children can walk. . . . We try this: to provide a surface uniformly smooth - the feet to be lightly shod, and to walk along a limited space . . . a line traced on the floor.[3] (Figure 37.)

The line on the floor should be an unobtrusive indication of the place to put the feet. It does not need to be wider than one inch in thickness (three quarters of an inch is preferable) and should be soft in color so that it is not a visual distraction in the room. No tables, chairs or work mats are to be placed on the

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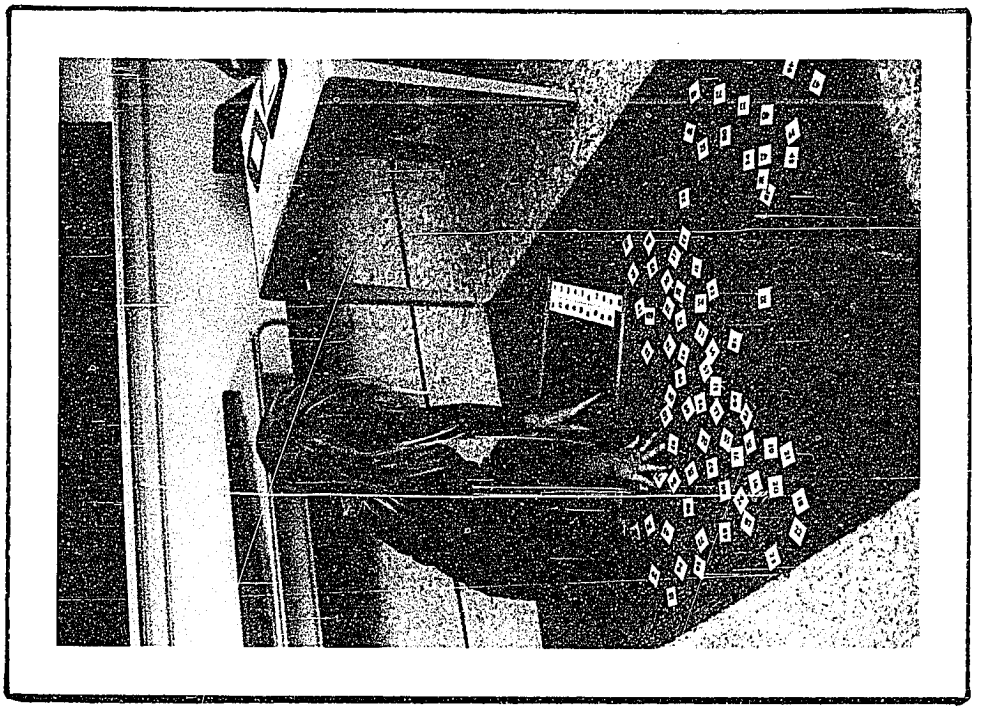

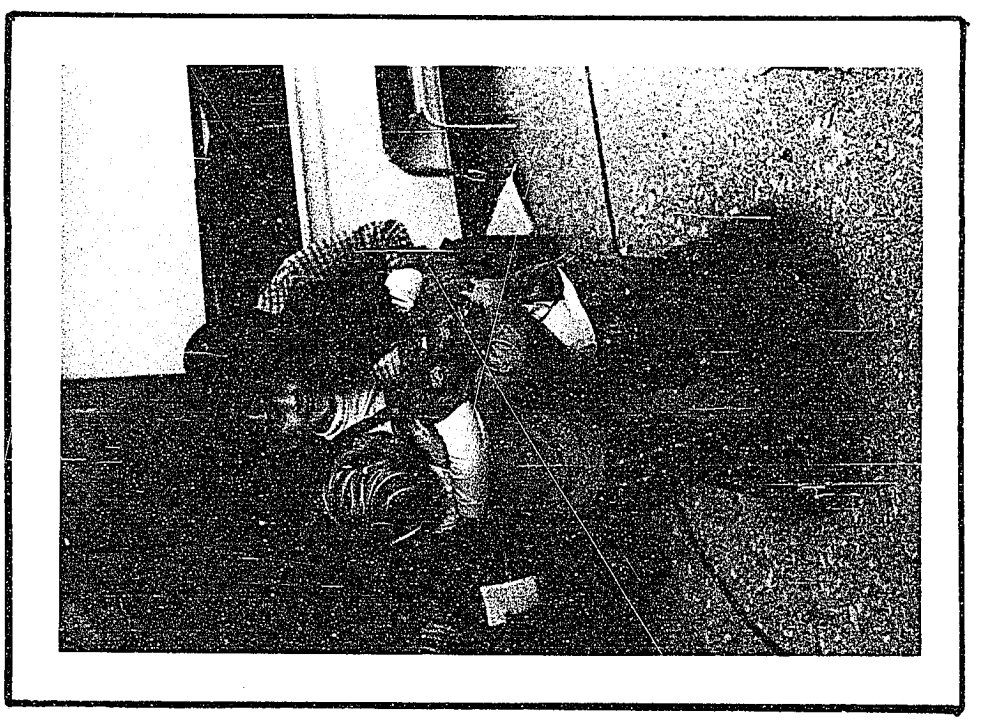

Figure 37a. The line on the floor.

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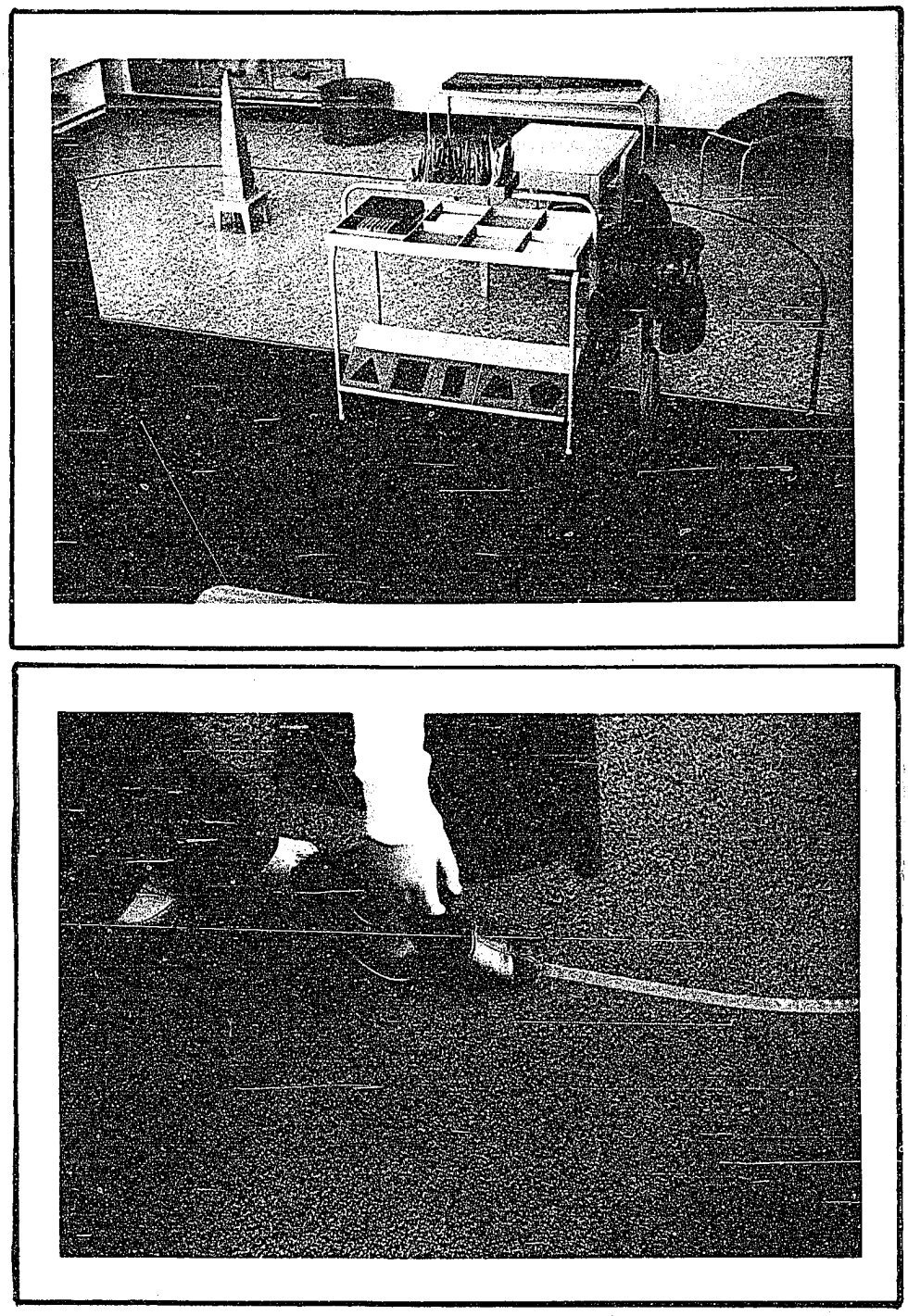

Figure 37b. The line on the floor above. "Lightly shod" feet below.

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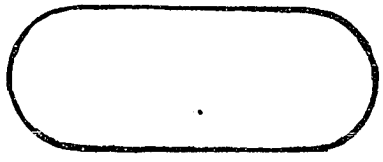
line, so that it may be available for use at all times. Since there will be times when all or most of the children will be on the line, the line should be of sufficient length to accommodate the children comfortably. This is especially important later when more vigorous movements such as running and skipping are being done on the line. Therefore, the line should be placed around the room in order to provide for the greatest possible freedom of movement. This freedom of movement requires not only length but also the placement of the line approximately one yard or meter away from walls and furniture. An additional line in the form of an ellipse may be made for the younger children so they are able to move at their own pace. The line should have no angled corners. Corners must be made of gentle curves. Curves are conducive to calmness while angles give a fragmented feeling. Since



the children should associate movement with the line, it should not be used as a place to sit for collective lessons or class meetings.

The first activity on the line is simply walking on it.

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> Walking on one line only with both feet on the line presents a certain difficulty, because normally we walk, as it were, on two lines. This then represents effort, and as there is a tendency to fall, this exercise illustrates equilibrium.[4]

The children will need help with spacing so that bumping one another does not become a distraction. A good guide is to be sure that the person ahead of you is at least an arm's length away. (Figure 38.) At this stage children do not pass others or change places in the line.

As soon as children become quite comfortable walking in this manner, a new difficulty is introduced. The introduction of new difficulties delights the children because the additional effort and concentration required makes the exercise more interesting and enjoyable.

> . . . placing the heel of the second foot against the toe of the first . . . is more difficult, and most people sway from side to side in doing it. You fix the line with your eyes, and this fixing is like a crutch. If we do this exercise several times, however, we shall find that we sway less from side to side. Now with the children, some teachers have noticed that they sway, and have thought that this was natural, but it would have ceased if the children had been allowed to continue. If we succeed in walking better without swaying, then it is by a great effort which concerns the whole of our body.[5]

To make it still more difficult, the children are given objects to carry. This requires the children to divide their attention between their feet on the line and the objects in their hands. Montessori said, "This voluntary attention to all our limbs is a way of assuming con-

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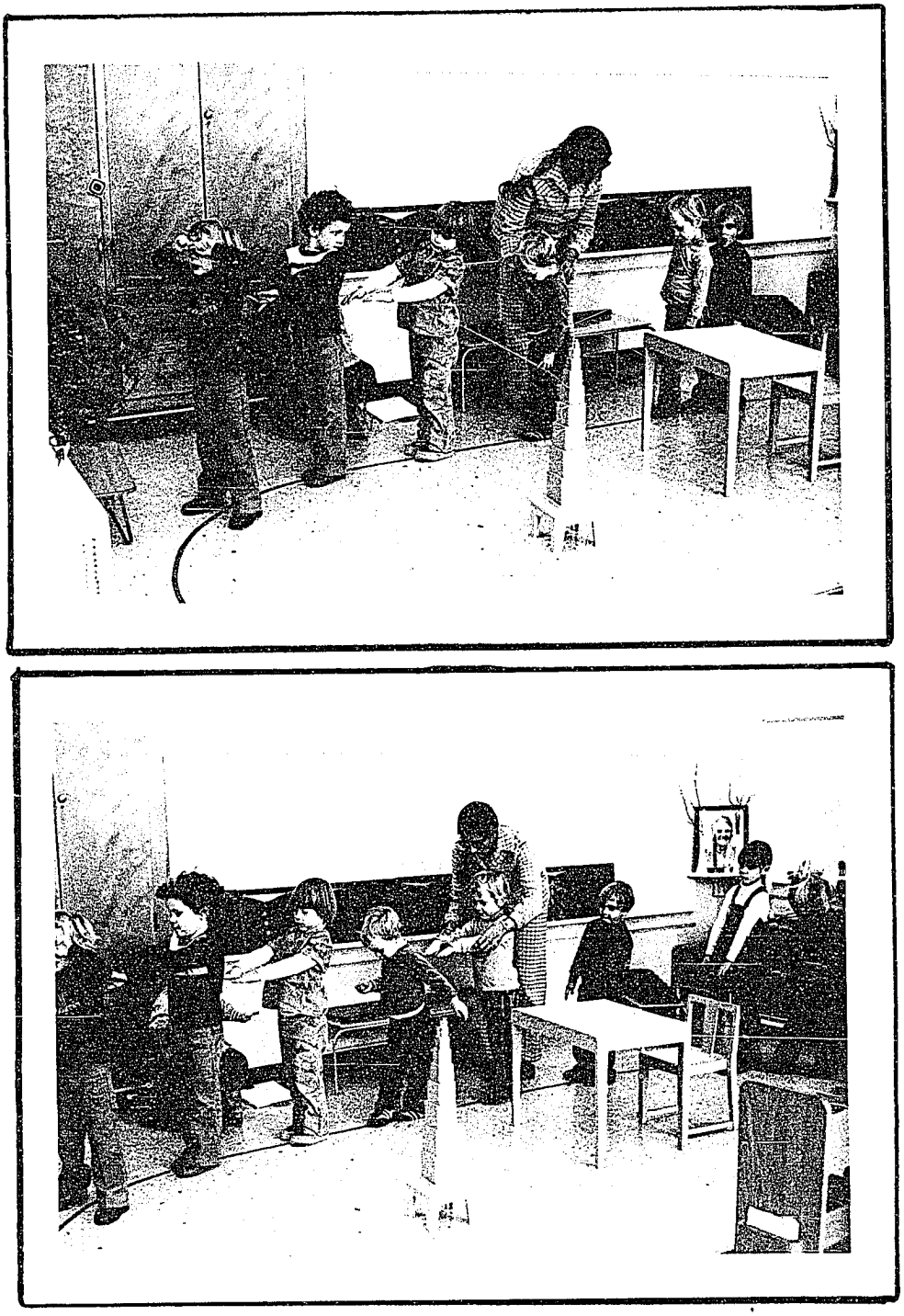

Figure 38. A lesson in spacing an arms' length away on the line.

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scious control over the body."[6] The first object to be offered is a flag which is to be held at arm's length in front of the child. The flags of different countries of the world are used.

> Children are free to choose a flag kept in the stand before the walking starts and to exchange them from the stand when there is a break. Some of the flags they know; soon they will start asking about others. This leads to real knowledge of the flags of different nations. On other occasions their knowledge of flags can be used to introduce or correlate items of interest concerning the respective countries and peoples, their national anthems, customs, costumes, etc. Most anthems are marches, some slow, some fast. Later on the children can walk on the line following these rhythms.
>
> Only after the flags are known thoroughly are the national anthems played.
>
> In this second stage, music does not remain a help to the effort of balancing, but becomes a director of movements as mentioned above. This will then form part of musical education and is no longer "true" walking on the line.
>
> When the children have become familiar with these anthems and know to which country and flag they belong, the children can also be told that when one national anthem is played the child holding that flag should continue holding the flag upright and the rest should lower theirs.
>
> Another possibility is to ask the children to take a flag from the flag-stand. Inform the children that a national anthem will be played and that the child who has the flag belonging to that nation will walk on the line, holding the flag upright, the others will step off the line and lower their flags.[7]
>
> A problem arises in that many national anthems are difficult to sing. A folk song that captures the flavor of a country could be used instead. Good examples are:
>
> England - Country Gardens
> France - Frere Jacques

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Mexico - La Cucaracha
Ireland - Molly Malone
Israel - Shalom[8]

Other objects to use when walking on the line are described in the student handout from the Montessori Training Center of Minnesota:

Walking with Beads:

On a thin string or twine about 20 cm. long three beads are strung. There could be beads and strings of different colours. Several of each, but not for all the children. Ask the children to try and walk without swinging the string of beads. Let them take a string in one hand first and later in both. Here also the arms are stretched out horizontally.

Walking with Bells:

(a) First offer simple bells with a handle or those hung on a Christmas Tree. Let the children take a bell in one hand at first and later in both.

(b) Bells or cymbals with long strings of about 20 cm. Let the children hold them with outstretched arms and walk all round the line without even a single tinkle. Whenever the attention wanders or balance is upset it is controlled by the sound of the bell.

Walking with glasses filled with coloured water:

A tray with oil-cloth on which are kept 8 or 10 liqueur glasses or other suitably small ones. They are filled with differently coloured water. The filling can be done beforehand by the children themselves from bottles prepared for the purpose.

(a) Suggest to the children to fill the glasses with coloured liquid up to 1 cm. from the brim and to walk, each or some holding one glass upright taking care that not even a drop is spilt. This needs great control as at the same time the feet are to follow the line and possibly continue touching heel to toe.

(b) Later the water in the glasses is filled up to the brim. (An eyedropper can be used to add the last

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drops.)

(c) Still later more than one glass can be carried on a tray - at first not brimful, later brimful.

(d) Carry suitable objects on a tray without shaking and without going astray from the line.

(e) Carry a ball or a spherical object on a tray without letting it roll about. This needs careful movement and great concentration.

Walking with basket on the head:

(a) Walking with an empty basket or something that does not break (but all the same attractive) on the head. At first a "Chumbal" (a soft padded ring of straw or cloth) could be used.

(b) Fill the basket with objects that cannot move.

(c) Fill the basket with round objects that can move and need still more care. These exercises help the children to walk with head and body erect.

There are some children who try to carry some cubes of the Pink Tower or some Knobless Cylinders. Allow them, but do not suggest it.

All these objects should be kept on a table, preferably in the centre of the ellipse or next to the wall. It should however be kept in such a place that children when changing their objects do not come in the way of other children that are walking.[9]

The above exercises of walking heel to toe on the line aids the development of spacing, balance, concentration, calmness and serenity. At a certain point calm, quiet "music can accompany this exercise and in this way it helps the sensorial stimuli."[10]

The children begin, as we have said, by learning to walk on the line. They develop a passion for walking on that line, yielding to a fascination which grown-up people cannot conceive. They seem to put their whole souls into it. This is the moment for the teacher to

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> sit down at the piano and without saying anything to play the first melody in our series. The children smile, they look at the piano and continue to walk, becoming more and more concentrated on what they are doing.[11]

The music that one plays should have no strong, rhythmic feeling which would invite an attempt to walk in time with the music. (Moving with the rhythm of a piece of music comes later. The emphasis now is on equilibrium and control.) The music should be played slowly and quietly and should project a quality of calmness. This creates a special atmosphere which is very helpful. The music should go on and on for at least ten to twenty minutes without a break even when the piece is repeated. Different melodies may be used. Lullabies in 6/8 time are the most suitable. (See Appendix IV for an example.)

The question always arises, "How long should this exercise continue and who should participate?" Montessori's answer is very clear:

> It is necessary that one musical phrase should be repeated many times, and when this phrase is being repeated some of the children will get tired of it and go away, whereas others will continue; and we can judge from this how long we should continue to play the same phrase. As long as the larger number of children is interested in it, we keep on. Another day when some one begins to play this same phrase on the piano some children will immediately respond, while others will keep on with their work. If you compelled all the children to respond you would have no means of judging of the response so it must not be the teacher's voice which calls the children to the exercise but the music. Those who are attracted by the music will come, those who are not attracted will

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continue their work. The children should continue the exercise as long as they wish.[12]

Other exercises for equilibrium are described by Dr. Montessori:

> Now sprinkle a little flour on the floor, or wet the soles of the feet and fix a point to which to direct your movements, blindfold the eyes, and, with the hands clasped behind the head, try to walk straight to that point. When you have arrived, you will see whether you have gone straight, by the marks your feet have left. Now walk carrying a book on your head, then do this blindfolded, and then turn the head to right and left.
>
> When we are perfectly conscious, and in possession of our muscular sense, we can direct our movements with closed eyes. We correct our movements by sight, because our muscular sense would render us liable to illusion, owing to the fact that the eyes have always too much aided this muscular sense. . .
>
> . . . In order that the children may perform the exercises of going up and downstairs it is essential to have a staircase which is proportionate to the size of the child, and the length of his feet.
>
> . . . The preparation of such a staircase suited to the child, is a great help to him in the art of walking.
>
> . . . A quiet and dignified way of walking in this way is coming up and downstairs, without swaying from side to side, and placing the feet one before the other as we have done on the line, even tracing a line on the staircase, so as to walk on it. Then there is developed an unstudied grace in walking. In order to learn to walk up and downstairs without wavering from side to side, the child may carry a basket of flowers on his head, and try also walking up and downstairs on a single line. Here we have an exercise not for merely aesthetical purposes, but for more fundamental purpose, because it is sufficient to have acquired this perfect equilibrium and all our movements become graceful.[13]

The first exercises on the line are used "to

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stabilize equilibrium, to teach erect carriage and to make movement freer and more certain."[14] After a degree of equilibrium and control over the body has been achieved, the body may be used for different forms of expression. Exercises to facilitate and enhance the latter are quite different from the first exercises of walking on the line. Montessori described the difference:

> You must not confuse these exercises with those of another kind where the child is abandoned to the music for the sake of the rhythm. The first exercises are for the equilibrium only; in the other exercises the child walks freely without placing his feet one after the other and music is played in different rhythm, to which the child listens, and moves in accordance. In this kind of exercise instead of there being muscular control there is muscular relaxation in response to the rhythm.[15]

One way to help the children direct their attention to the music which is accompanying their walking is to one day tell them that they are to walk while the music is playing and to stop when the music stops. Up to now their attention has been divided between their feet on the line and the objects that were being carried. This exercise asks them to further divide their attention in order to include their auditory sense.

When the adult observes that many of the children are walking with good equilibrium in a rhythmical manner, he or she may attempt to adapt the music to the children's tempo. Montessori said:

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We choose then simple phrases in music which we repeat again and again, and the child by moving may be taken by the rhythm. In the early stages we may play music and may watch the children act in response. We merely give this fundamental idea of walking along the line . . . and the child walks on the line naturally, and we are not to be anxious that he should do it in a certain way. If the teacher is sufficiently musical to understand what rhythm the child has followed in walking, she can then play something which will accompany this rhythm of the child. In this case it is not that the child adapts himself to the rhythm of the music, but the music adapts to the rhythm of the child, so that it is as if we pursue the child with our music and capture him. It is almost as if the rhythm took possession by surprise of his movements, and the rhythm gives the child harmonious and calm movements and he is penetrated by this rhythm. And when the two are in one accord, that is, the rhythm and the child, then the child rejoices. But in the case where the teacher has not done this, then the child works on his own account and she on hers, and we simply wait to see if this accord will come about, and when it will come about. And you will see what a work of patience it is for the teacher, she has her own desires, but she has to go on and on patiently. But if she lets him walk the teacher has all the possibility of seizing on him. It would be useless to say to the child "pay attention to this music". For a small child merely hears the music, we could not achieve this result, but for a child moving to the music we <u>can</u> achieve this result. At a later stage therefore the attention of the child is won by the music, and he interprets it by his movements. Supposing the teacher were to tell the child when he had to walk to the music, and when he had to jump along. She would not arrive at the same result. Therefore we are speaking of a preliminary period. The teacher who plays for the child is doing a very necessary piece of work, because in the environment there is all the necessary stimuli except that of music and if there is not a person who is producing this music, the music in that environment is non-existent. Here the teacher has to fill a gap in the environment, and so she plays again and again in order that that which would be lacking in the environment may on the contrary surround the child in the environment. When the teacher notices that the child begins to hear and feel the music, then she will proceed in a more methodical way and just as

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> the child perfects himself, the teacher follows him and rises to a higher level.[16]

When the adult decides that the time has come to begin the rhythmic exercises, the children may be told, "We are going to walk on the line today but the rules are going to be a little bit different. You are not going to carry anything and if you want you can pass somebody."[17] The adult plays the walking music and then changes to a march without telling the children about the change.

> The teacher does not teach the child to change his walk according to the music, the phenomonon arises automatically. To say to the children: jump, run, march, renders the playing useless. Do one of the two: either play or command.[18]

In this case one does not command but rather plays and, as a result, first one child, then another and another will begin

> . . . to interpret the rhythm by moving in harmony with it. But to obtain this result the teacher must play perfectly, carefully noting all the details of musical punctuation. The creation of musical feeling in the children depends upon the teacher's own feeling and the rigorous accuracy of her own execution. . . . We must warn against the error of playing with special emphasis on the measure; in other words, of striking more loudly than is required the note (thesis) which marks the inception of the rhythmic period. The teacher should be careful simply to bring out all the expression that the melody requires. She may be sure that the rhythmic cadence will become apparent from the tune itself. The playing of one note more loudly than the others, thus to emphasize the rhythmic accent (thesis), is to deprive the selection of all its value as melody and therefore of its power to cause the motory action corresponding to rhythm. It is necessary to play accurately and with feeling, giving an interpretation as real as possible. We get thus a "musical

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> time" which, as every one knows, is not the "mechanical time" of the metronome. . . . Children feel the rhythm of a piece of music if it is played with musical feeling; and not only do they follow the time with their footsteps, but, as the rhythmic periods vary, they adapt the whole attitude of their bodies to the melodic period, which is developed around the beats constituting the rhythm as around points of support. There is a vast difference between this exercise and that of having children march to the clapping of hands or to the time of one, two, three, etc., counted in a tone of command. . . . It is curious to see them assume a demeanor entirely in harmony with the expression of the music they are following. A little boy of three, during the playing of our first melody, held the palms of his hands turned parallel with the floor and as he walked he bent his knees slightly with each step. On passing from our first to our second tunes, he changed not only the rapidity of his footsteps, but the attitude of his whole body. Considered as something external this may be of slight importance, but considered, as evidence of a mental state, the change in demeanor bears witness to a distinct artistic experience. The composer of the tune could well be proud of such a sincere response to his work, if the test of musical beauty be regarded as successful communication of feeling. . . . At first the children interested in the first tune are deaf to any other. The children in the St. Barnaba School in Milan got in step with the first tune. They did not notice that the teacher had changed to the second and kept their step so well that when the first tune was resumed, the teacher found them in perfect time, while on the faces of the children appeared a smile of recognition, as it were, of an old friend.
>
> If the teacher is sufficiently cautious, she can discover without disturbing the children the moment when they have caught a new tune; and even if only a few succeed in following both of the first two melodies, the teacher can satisfy these few by alternating the tunes. This does not disturb the others who come, little by little, to notice the change in the music and to fall in with the new movement.[19]

At this level one uses the same musical examples for each type of music. When the children are very secure in their response to the different movements, other musi-

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cal examples may be used for each of the different types of music. Lawrence Benjamin said,

> . . . to begin with and on the introduction of each new rhythm, the same piece of music should be played over and over again, in a way that to us might seem tiresome. However, this constant repetition is necessary for the little child. It is in this way that he feels his way into the music and begins to understand the rhythm. When a new piece of music is played for children in a rhythm they already know and they respond immediately, it may be said that they know this rhythm. . . . Then later there begins to come a time when if the same tune or tunes were played over and over again, the children would become bored and lose interest. This is the time when they need variation, numbers of new tunes, and these should be given.[20]

Maccheroni said,

> . . . it is necessary to have a very rich collection of pieces of music, which trigger, create and excite the various movements. We recommend good music. There are plenty of marches: those taken from operas are generally good as they express a psychological state of mind. . . . There are also arias which, without being marches, entice the children to walk. There are folk songs which mark the tempo clearly and with emphasis. I have a great desire to collect and to print such a rich collection. Meanwhile everyone can make one up for himself.[21]

An excellent collection of pieces was compiled by Elise Braun Barnett and was published under the name, Music For Active Children, by Stephen Daye Press, NY in 1957.

Only one kind of movement is introduced on any given day. The sequence is:

1. Walking (Figure 39)
2. Marching (Figure 40)
3. Light running (Figure 41)
4. Skip or gallop
5. Very slow dirge or sedate walk

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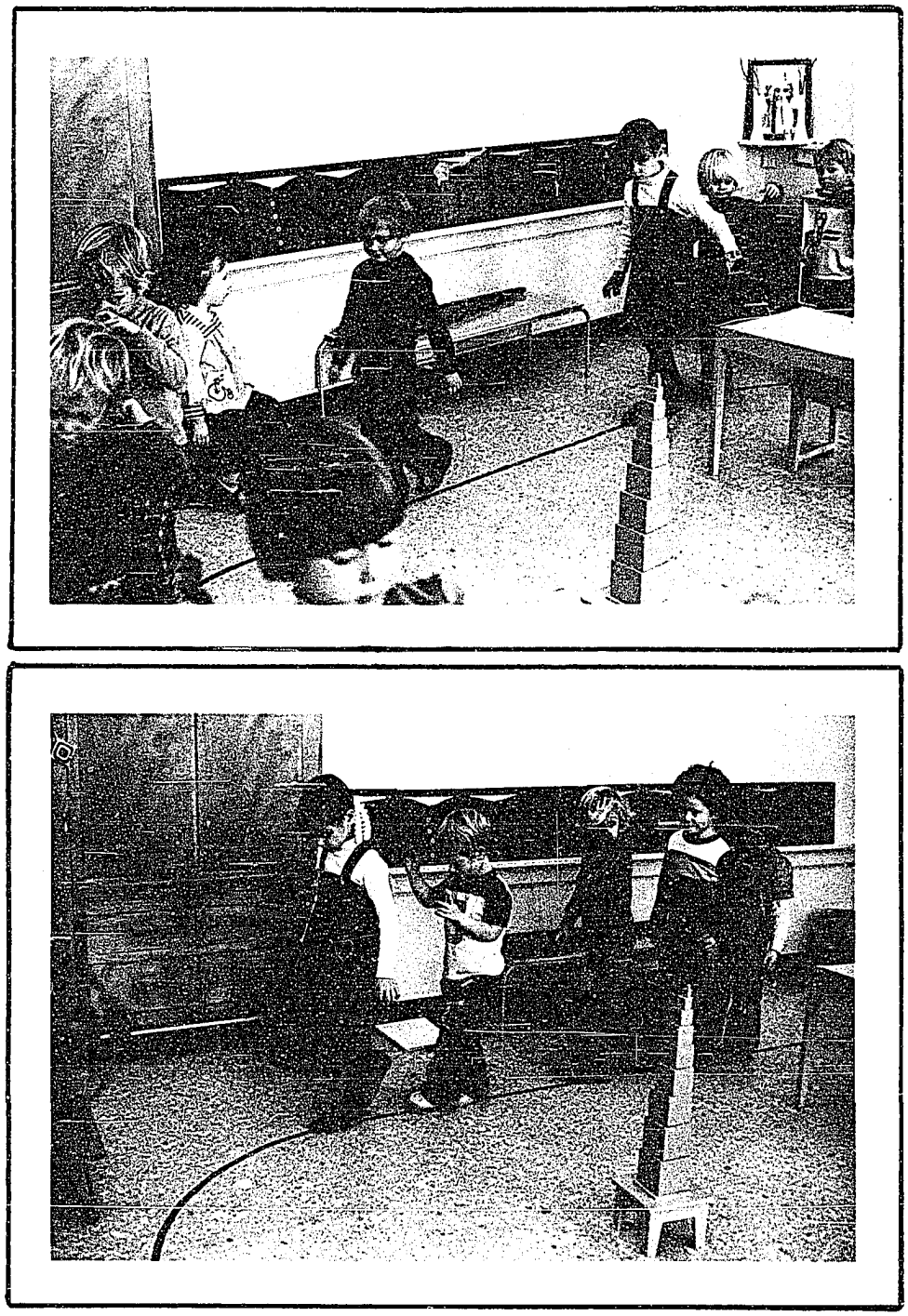

Figure 39. Walking on the line.

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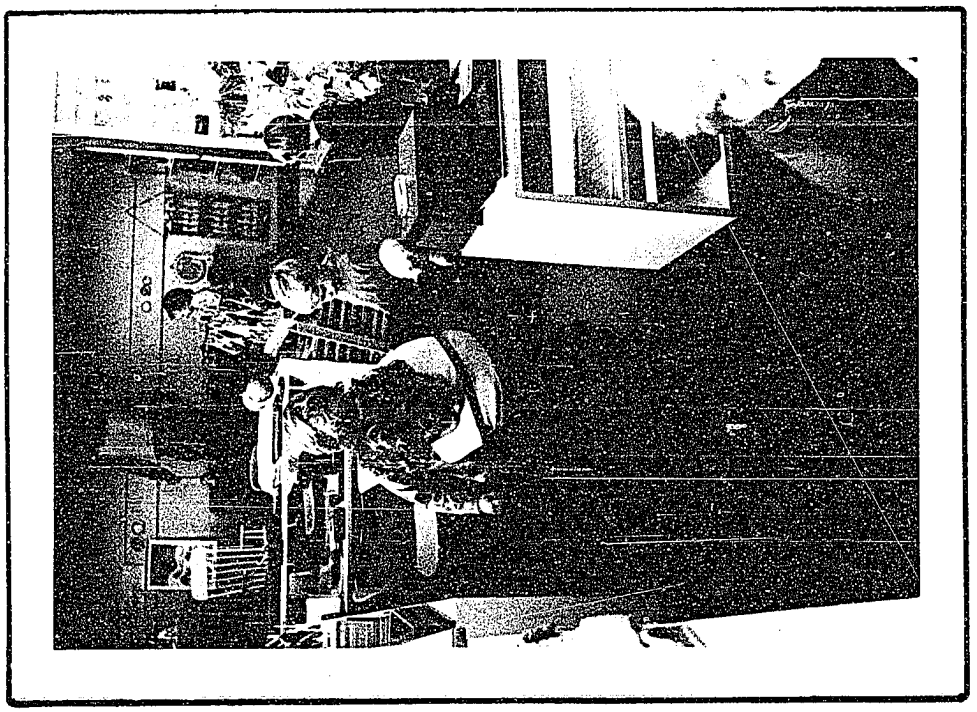

Figure 41. Running on the line.

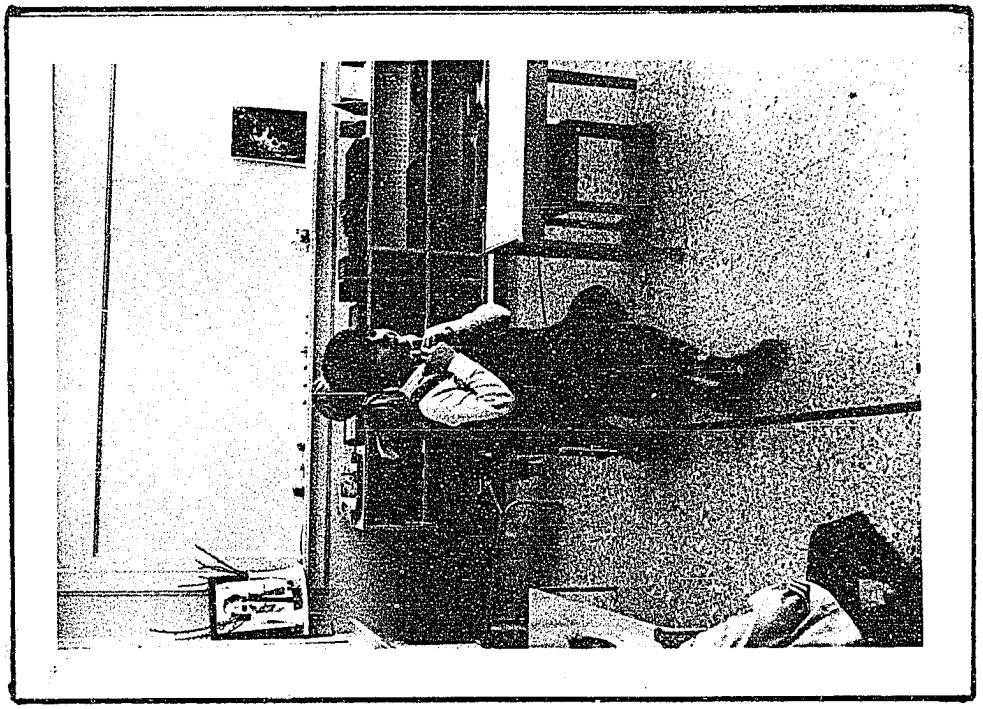

Figure 40. Marching on the line.

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Each new type of movement is introduced after walking music has been played. All the movements already introduced are included by the person providing the music for any given lesson. At first the walking music is played between the other rhythms as a means to help children regain their balance and calmness and to give them time to collect their thoughts before the next rhythm is played. Later, the walking music is not played between the different rhythms. Since the transitions are less obvious, greater attention is necessary on the part of the children.

When any given rhythm is being played, different children may be responding in various ways. Their responses do not need to look alike. Typically, the skipping music evokes at least two different responses. Some children will be galloping, others will be skipping. Although developmentally skipping comes after galloping, no judgement is made that a skipping response is better. When unrestricted by suggestions from the adult, children will be creative in their response to different rhythms when their consciousness has developed to the point where they hear the differences. The task of the adult is to provide the necessary conditions for this consciousness to emerge rather than to dictate a response.

Piano selections for various types of movements are to be found in Appendix IV. Live music is preferred

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for the movement exercises. Unfortunately most trained Montessorians are not also trained musicians. Therefore, the Appendix contains directions from Sanford Jones for playing the various kinds of music on the piano for people who do not know how to read music. Since many Montessori centers do not have pianos, there are also directions for playing the music on the bells.

Contemporary pieces for piano have been composed by Sanford Jones and are currently being tested in selected Montessori centers.

When live music is unavailable, tapes or records are suggested. It is important that the order of the pieces on a tape does not become predictable; therefore, it will be necessary for the pieces to be frequently re-taped in a different order.

When the children have had experience with marching, running and skipping, a game may be introduced in which the participating children are divided into three groups. Each group is assigned a different place next to the line. A leader in each group is selected and given a colored sheet of paper. Each group's paper is a different color and each has a different designated movement. When the music for a particular group's movement is played, the leader gets up on the line, holds the colored sheet so it can be seen and does the appropriate movement around

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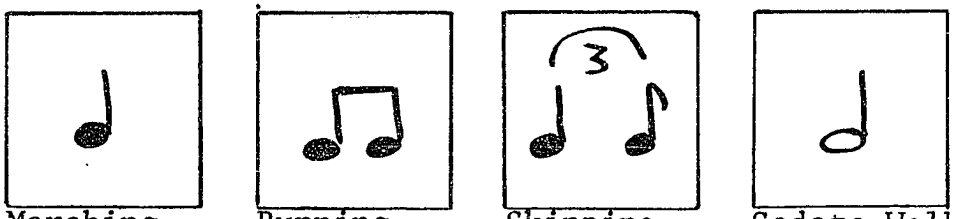
the line while the group members follow. When a different group's music is begun, the first group goes back to its place and the other group proceeds to do its movement. To avoid confusion the person who is playing the music must be sure to end a piece when the group on the line is near its designated place. The movements assigned to each group should be changed so that everyone gets a chance to listen for and perform all the different movements. Any child who wants to be a group leader should be given the chance to do so.

After some days or weeks, the colored sheets of paper may be changed to pictures of the appropriate rhythmic notation for each type of movement.



Marching Running Skipping Sedate Walk

This means that the notation associated with a particular type of movement will be in view when the movement is being performed and all involved will be absorbing the meaning of that notation. Eventually one needs only to show the notation card and the children immediately begin the appropriate movement. This is generally the children's first experience with rhythmic notation. It follows and is attached to the real experience it represents.

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After the introduction of the sedate walk, it may be included in the above game.

If the movement exercises are being accompanied by an instrument which can produce chords, such as the piano or guitar, then a variation in the playing may be introduced. Maccheroni writes,

> It is good every so often to play only the melody of the piece that the children by now know. Since the children sing very happily la . . . la . . . la on the melody notes, then one may at a certain point stop playing. You will see that the children are going on singing and walking. At this point one may play only the accompaniment softly.[22]

Maccheroni goes on to say that you should also tell the children the names of the pieces. Eventually the children will say, ". . . would you mind playing the Triumphant March by Verdi?" When the children have spontaneously taken a triumphant posture while marching, they may be told something about Aida and the triumph.

In similar fashion Montessori said:

> Musical knowledge . . . is based on movement, and yet there is nothing more sensorial than movement. . . . The point is that the child can enjoy and can recognise, and even know the names of certain musical authors after he has acquired his music from motor ways, and not through sensorial. I am speaking of musical knowledge. If you wish to teach a child of four, four and a half, five, to recognise the forms of music and their authors, you would have before you a problem of knowledge. You want to give this child such a knowledge of music that he would be able to recognise and understand the names of the authors of the music, and it is only possible at such an age for the music to penetrate the child by motor activity, so that rhythmic gymnastics is a means for arriving

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> at musical knowledge, whereas we should otherwise find it impossible to give this child musical knowledge. That is to say, we arrive at his intelligence at a much earlier stage, more effectively through motor activity, and it seems to us a perfect marvel, when we hear the little child of five come up to us and say, "Now I should like to hear something of Beethoven or Schubert". It certainly amazes one.[23]

The adult must always be on the alert for the moment when an exercise or activity becomes too easy. This is the time to present a new variation, a new challenge, in order for interest to continue. After the game mentioned above in which musical notation is shown, variations on marching may be introduced.

> Children involved in these variations must be secure with a steady pulse. As the adult plays marching music, he or she calls out directions such as, march forward, march backward, march in place, reverse direction, march in place facing the center, freeze, march sideways to the right (or left), clap in place, etc. The first time this is introduced only two of the motions are used. One or two new motions may be added at each subsequent session. The ground rules are the same as before - no touching or bumping of others. Later, assign numbers to the actions and call out only the numbers. Two numbers are used at first and more added gradually.[24]

Another exercise which the children enjoy is related to their knowledge of musical instruments.

> A familiar marching tune is played while the children march. When the music stops they stop and pretend to play the same marching music on an instrument of their choice in time with one another. The leader may conduct if help is needed to keep them in the right tempo. When the piece has been completed silently, the leader plays the piece again and the children continue marching.[25]

This is an excellent exercise for helping children develop

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the ability to hear music in their heads.

The Freeze Game is played in the following manner.

> The children march to music on the line. On the last note the leader calls out an idea and the children freeze into whatever the idea suggests. Examples of things to call out could be lightning, balloon, porcupine, afraid, asleep, hungry, full, warm, etc.[26]

To act or imitate requires that one be conscious in order to analyze. Doing the Freeze Game in this manner aids the development of mental speed and decision making.

Many other games or activities may be used which give children an impression of such things as accents, dynamics, tempo, and cadence. A few of these games will be described in Chapter X.

Montessori observed the connection between movement and understanding. She said:

> So you see then that we have really a high road to the intelligence. Intelligence moves and is moved by motor activity, and it is true in everything that the child, through this motor activity can learn more precociously and in ways quite different from those that we had imagined. We had never seen a child of 3 years concentrate before, nor had we seen the child tireless in his wish to understand, and all this happens when man builds himself up as he should. It is not the excellence of the Method. It is obedience to the laws of nature.[27]

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CHAPTER VII - FOOTNOTES

[1]Maria Montessori, lecture 10 at the London International Montessori Training Course (unpublished manuscript, from AMI's private collection), April 27, 1927, pp. 1-2.

[2]Maria Montessori, "Silence and Musical Exercises", lecture 6, course unknown (unpublished manuscript, from AMI's private collection), April 15, 1921, p. 3.

[3]Maria Montessori, lecture 10, pp. 2-3.

[4]Maria Montessori, lecture 10, p. 3.

[5]Maria Montessori, lecture 10, pp. 3-4.

[6]Maria Montessori, lecture 10, p. 4.

[7]"Walking on the Line", student handout, Montessori Training Center of Minnesota, St. Paul, Minnesota, 1975, pp. 3-4.

[8]Sanford Jones, music workshop sponsored by the Montessori Development Foundation, Cleveland Heights, Ohio, Summer 1972.

[9]"Walking on the Line", student handout, pp. 4-5.

[10]Maria Montessori, "Musical Exercises", p. 5.

[11]Maria Montessori, The Montessori Elementary Material, trans. by Arthur Livingston, (Cambridge: Robert Bentley, Inc., 1965), p. 342.

[12]Maria Montessori, "Musical Exercises", p. 7.

[13]Maria Montessori, lecture 10, p. 5.

[14]Maria Montessori, Elementary Material, p. 341.

[15]Maria Montessori, "Musical Exercises", p. 6.

[16]Maria Montessori, lecture 18, course unknown (unpublished manuscript, from AMI's private collection), May 16, year unknown, pp. 4-6.

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[17]Elizabeth G. Hall, music lecture from "Children's House Training Course" (2½ to 7 years old) 2nd course of the Montessori Institute of Cleveland, Cleveland, Ohio, March, 1979.

[18]Vittoria Fresco-Galeazzi, "Course on Music Education", lecture at the Sixth International Training Course at the Centro Internazionale Studi Montessoriani, Bergamo, Italy, Spring 1967.

[19]Maria Montessori, Elementary Material, pp. 342-345.

[20]Lawrence Benjamin, lecture 37 at the London Montessori Training Course (unpublished manuscript, from AMI's private collection), June 30, 1925, p. 9.

[21]Anna Maria Macchenoni, Camminiamo Con La Melodia (unpublished booklet No. 1, from AMI's private collection), pp. 11.

[22]Maccheroni, Camminiamo, p. 14.

[23]Maria Montessori, "Sound-Bells", lecture #18 at the 17th International Training Course, London (unpublished manuscript, from AMI's private collection), May, 1931, p. 11.

[24]Sanford Jones, music workshop, Summer 1972.

[25]Sanford Jones, music workshop, Summer 1972.

[26]Sanford Jones, music workshop, Summer 1972.

[27]Maria Montessori, "Sound-Bells", p. 12.

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CHAPTER VIII

RHYTHM

Rhythmic clapping may begin with very young children as another way to offer sensorial experience with rhythm. Clapping combines two parts of the music program: listening and movement. To do these activities children must actively listen to what is being done and duplicate it with body movement. Clapping helps children develop a musical memory for rhythm.

The initial exercises with very young children should be simple and regular with just a few claps. It is important that the leader and children sit with their bodies in a symmetrical fashion. This may be achieved by sitting crosslegged on the floor or in a chair with both feet on the floor in front of the chair. If posture is not symmetrical, clapping will be uneven.

It is important that each child be facing the leader and have a clear visual path to the leader. If there are too many children for a single semicircle, a double semicircle could be used. (See Figure 42.) This arrangement ensures that everyone has a clear view of the leader. A circular arrangement is inappropriate

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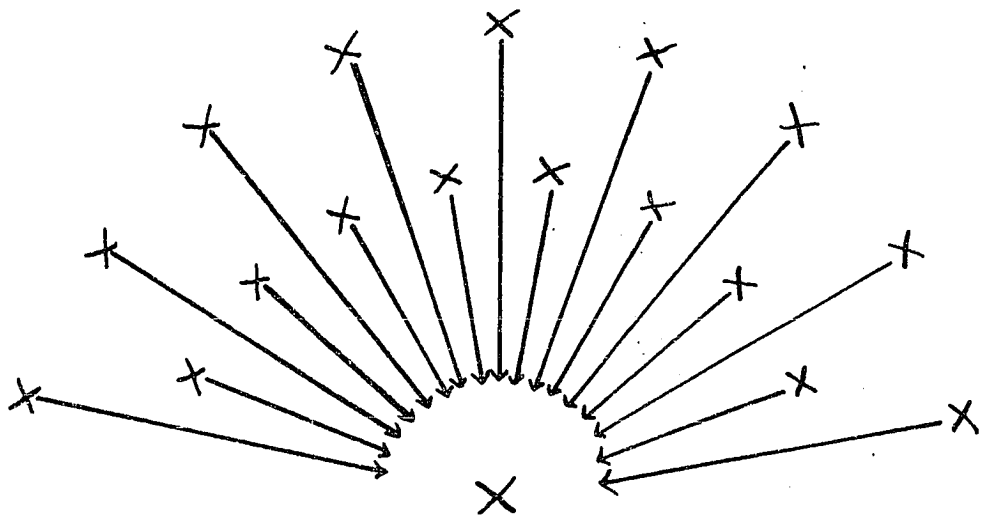

Figure 42. Double semi-circular arrangement with each person having a clear view of the leader.

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for this activity for three reasons:

1. Some children must view the leader from the side. (This would be especially disadvantageous when the pictures of the note patterns are being shown.) (Figure 43.)

2. Some children will be so far distant from the center of activity that attention may easily wander. (Figure 44.)

3. Sitting in a circle makes it too easy to be distracted by other children rather than focusing attention on the leader. (Figure 45.)

A sign should be arranged to indicate when it is the children's turn to clap and when they should stop. The leader tells the children, "Listen to me clap. When I stop, you clap the same as I clapped." The leader claps once, then points to the children as a group. When they have clapped once, the leader holds up one hand with palm toward the children to indicate they should stop. The leader repeats this procedure with one, two or three claps for as long as the very young children are interested. Older children may participate with the younger children in order to set an example of what to do. The leader may be an adult or one of the older children. This preliminary exercise prepares the way for the rhythmical exercises which follow.

One of the earliest of the rhythmical exercises may be the clapping of the names of the children in the class. Rhythmical clapping while saying the names helps

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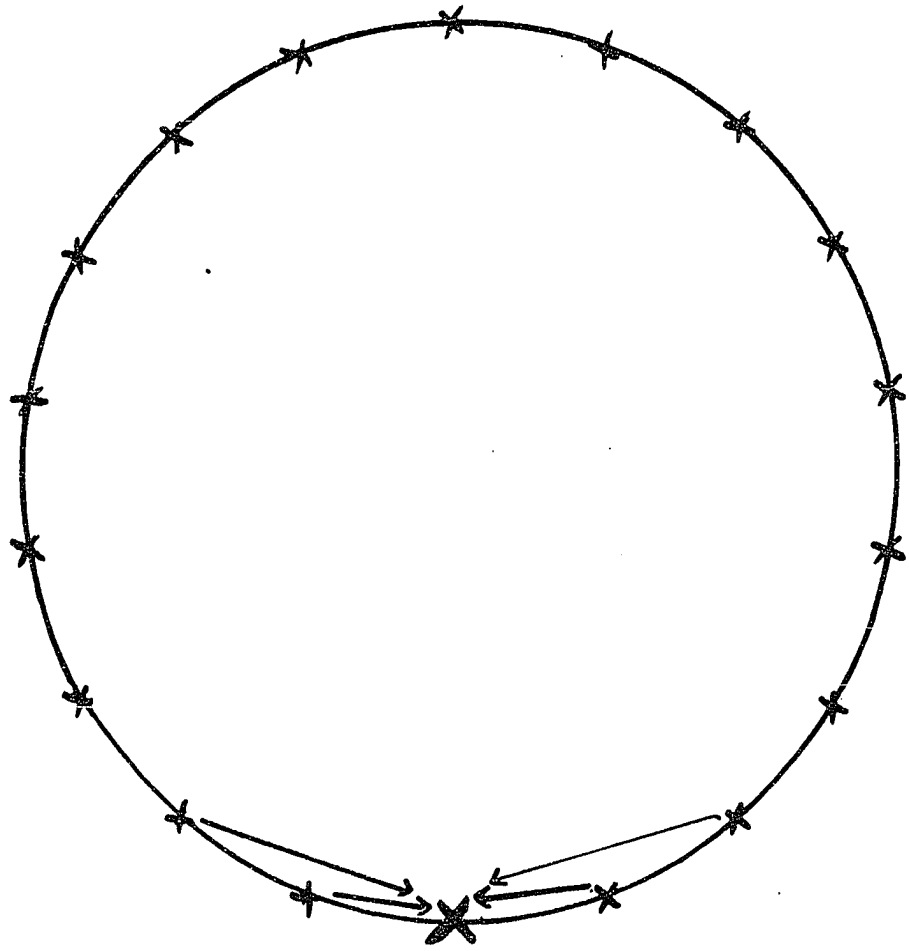

Figure 43. Showing circular arrangement: disadvantage of children viewing from side.

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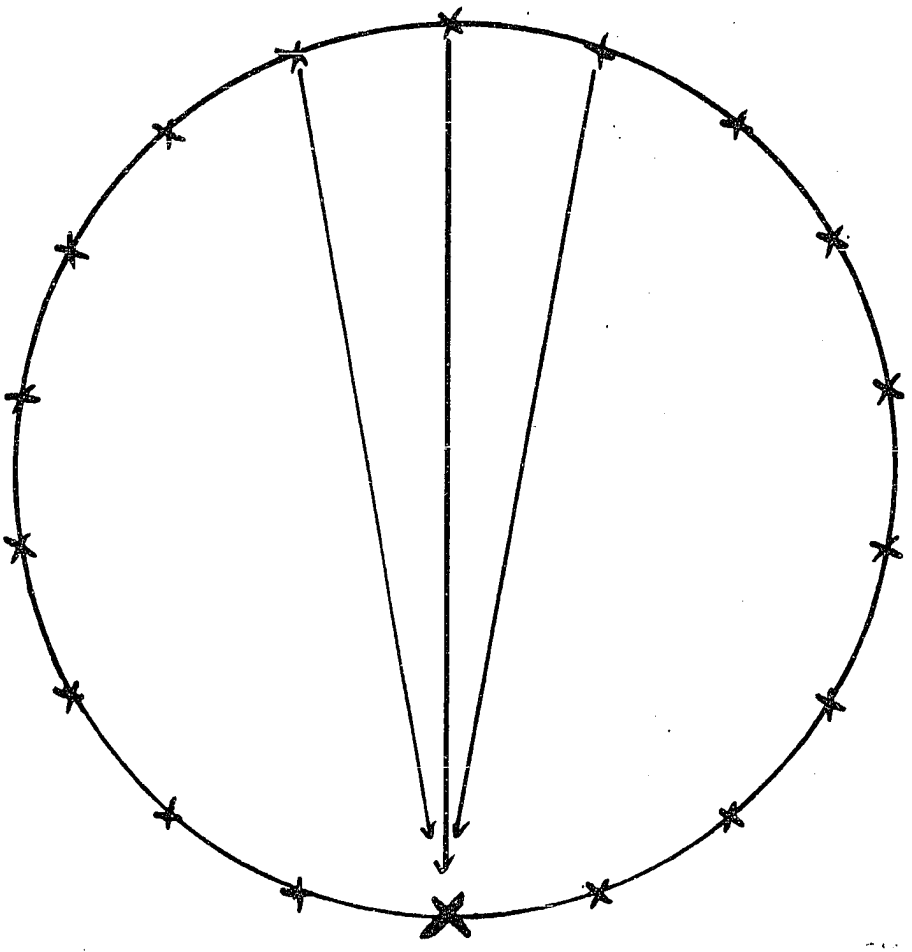

Figure 44. Showing circular arrangement: disadvantage of children being so far distant from the center of activity that attention may easily wander.

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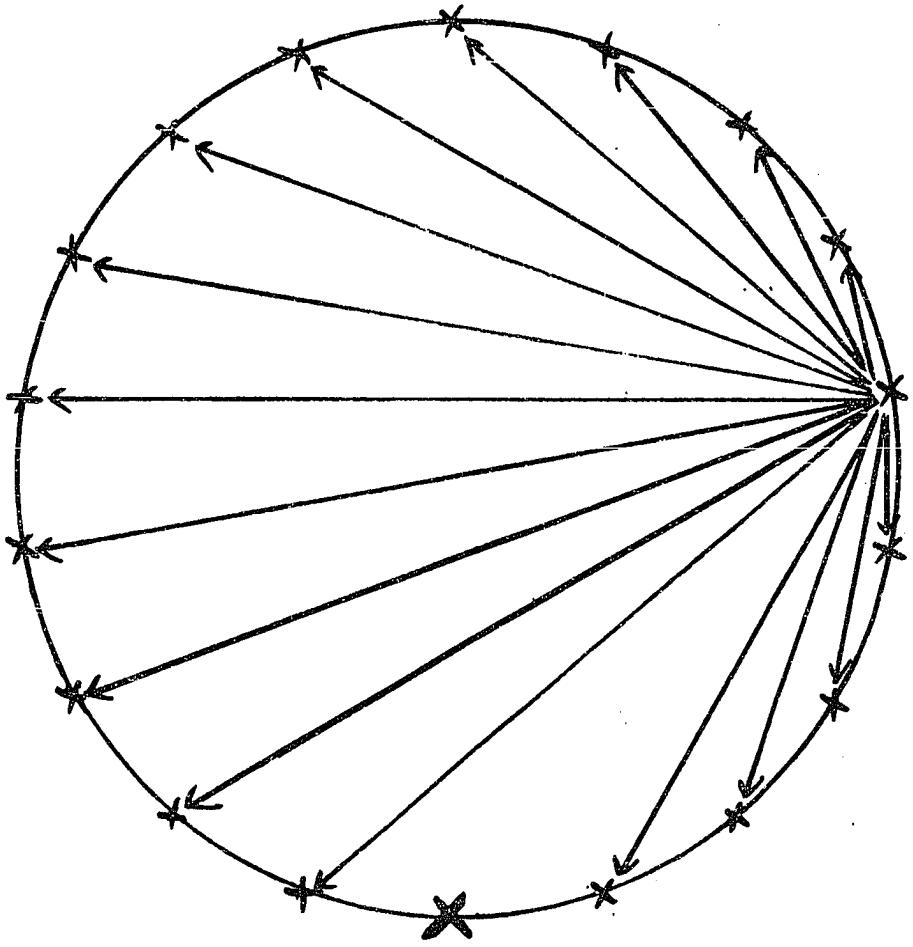

Figure 45. Showing circular arrangement: visual distractions possible for one child.

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the children learn each other's names and it re-inforces a sense of self. If a child is going to join the group in the middle of the year the children in the class could be told a few days ahead that a new person would be coming. If that person's name is clapped for several days, some of the children will remember when the person arrives and will very likely greet the newcomer with, "Oh, you must be _____." This helps the newcomer feel welcome.

The adult says a name while clapping the appropriate pattern in a four beat measure. The name is repeated at least four times. Generally one begins with the easier patterns and proceeds to the more complicated. In any given session everyone participating must have their name clapped. If any children are forgotten, they will have a feeling of disappointment and will have a more difficult time concentrating on the activity the next time. Examples of names and patterns which could be found in a typical class are in Figure 46. After a while, children will begin to notice that some peoples patterns are the same as others. For example, Sanford Jones (♩ ♩ ♩) and Nikki Hughes (♩ ♩ ♩) may discover that their patterns are the same. Children who easily recognize their pattern enjoy a game where they are called by their pattern being clapped rather than their spoken name.

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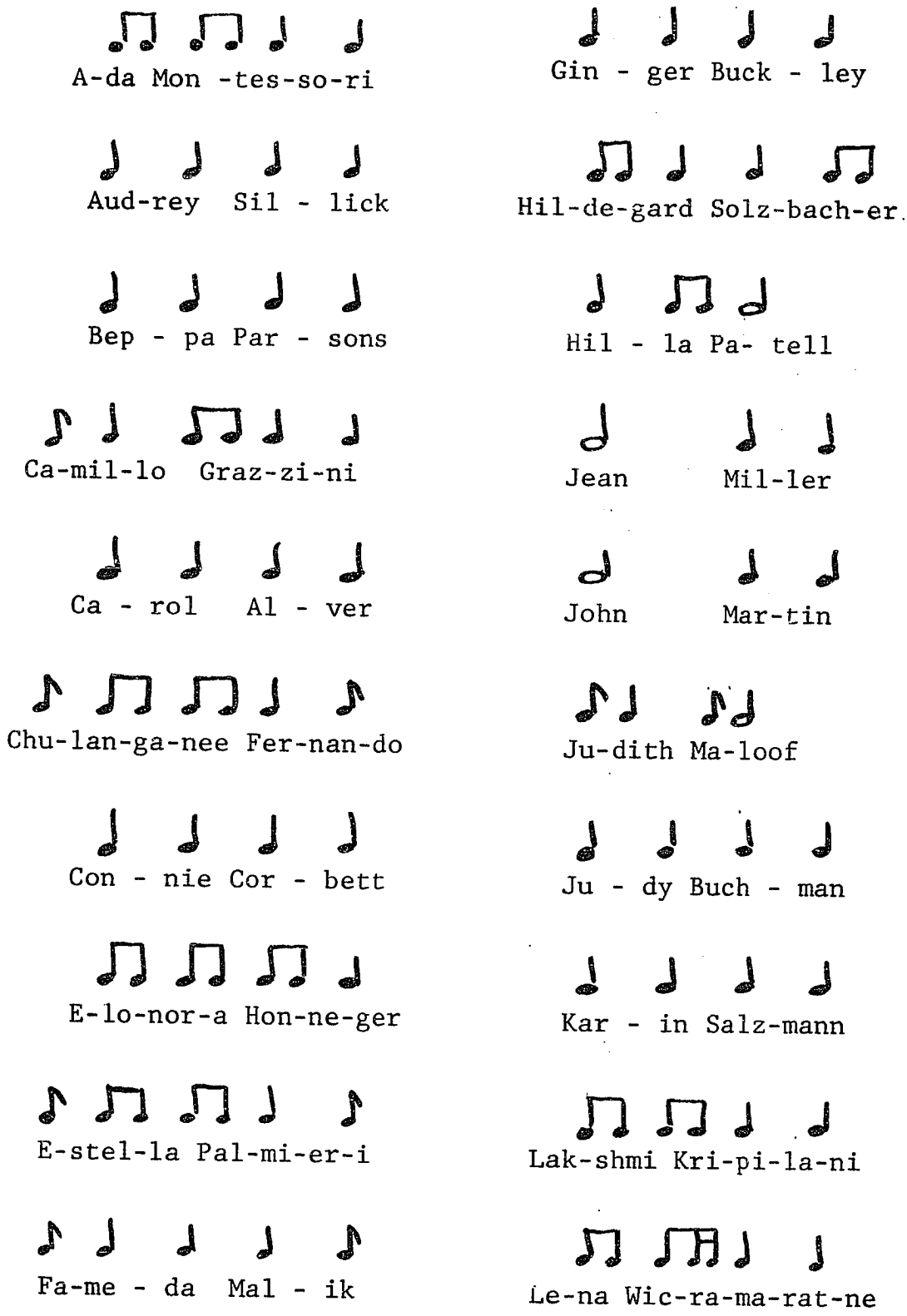

Figure 46a.

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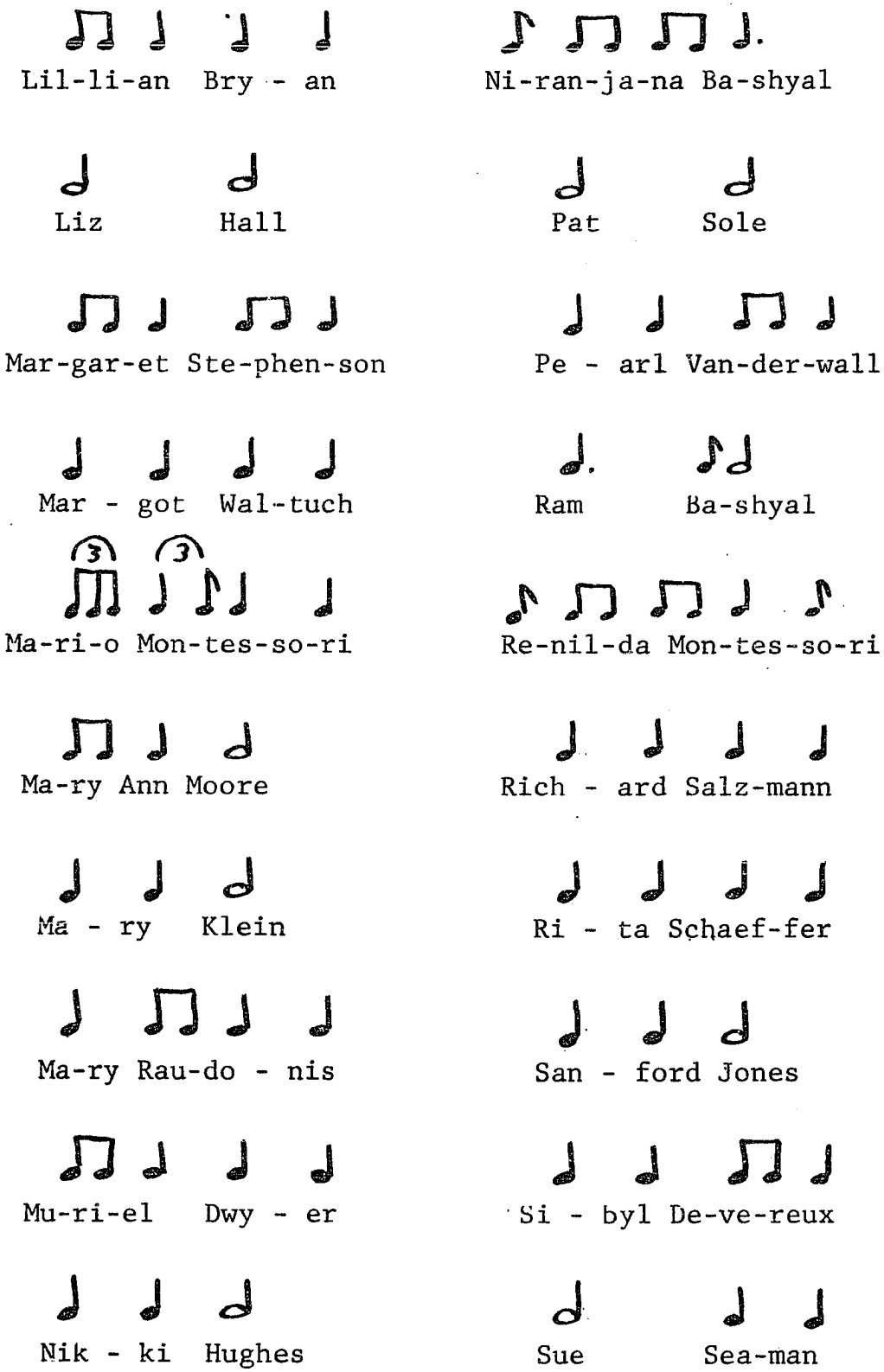

Figure 46b.

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Figure 47.

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In similar fashion, materials and objects in the room may be set in a four beat measure pattern and clapped. After demonstrating a few for the children, suggestions may be solicited from the group. Examples are in Figure 47.

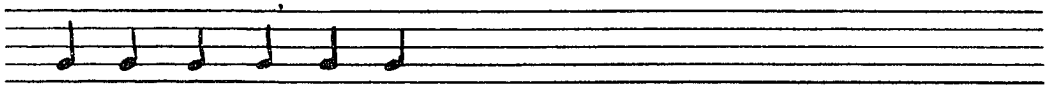
When children have reached four years of age, they will probably be ready for beating or clapping patterns without any words to accompany the pattern. Maccheroni wrote,

> . . . the teacher or a child beats a bar several times, then a child (or all the children) repeat it by ear without any explanation. . . . It is a sort of a game to make a succession of beats on a drum and to be able to repeat it several times unchanged. Children are more likely to do so than many adults.[1]

Examples of rhythms for these exercises are illustrated below. The examples are taken from pages one, two and four of Maccheroni's Melody Music Book, unpublished from the collection of the Association Montessori Internationale.

The Accent of the Bar page 1

No clef is written here because children can beat a drum, use a triangle, etc.



Beat or sing each note exactly alike.

Double Time Double Time

Do not exaggerate the accent of the bar.

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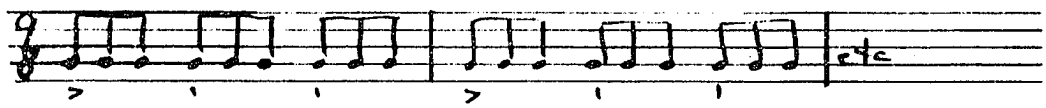
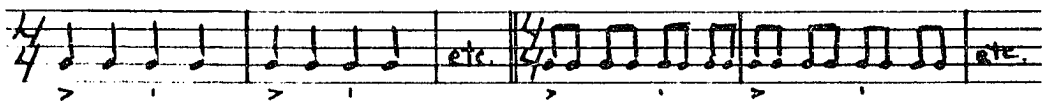
Triple Time

Triple Time



The secondary accent is very slight.

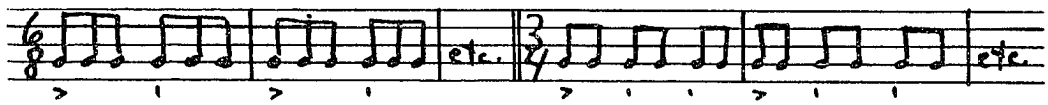
Quadruple Time



Quadruple Time

Quadruple Time

Double Time



Triple Time

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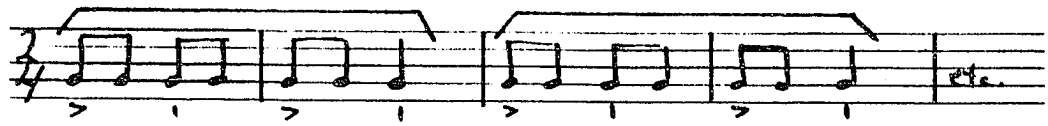
Beat several times first:



The longer note gives a feeling of rest, of a close.

Here the design is shorter, it takes only one bar.

Here besides the longer notes, there is also a rest.

We call these halting points.

Later, the leader may clap a four beat measure pattern and then the group echoes it. This is done at least twice for each pattern. If the group has been comfortably successful with the pattern, the leader can clap a different pattern. At this stage it is important to go from one pattern to the next with no break in the rhythm. The first patterns used are a combination of quarter and eighth notes. See Figure 48 for the different patterns used. One begins with a few patterns and gradually, over a period of weeks or months, builds up to the inclusion of all the patterns.

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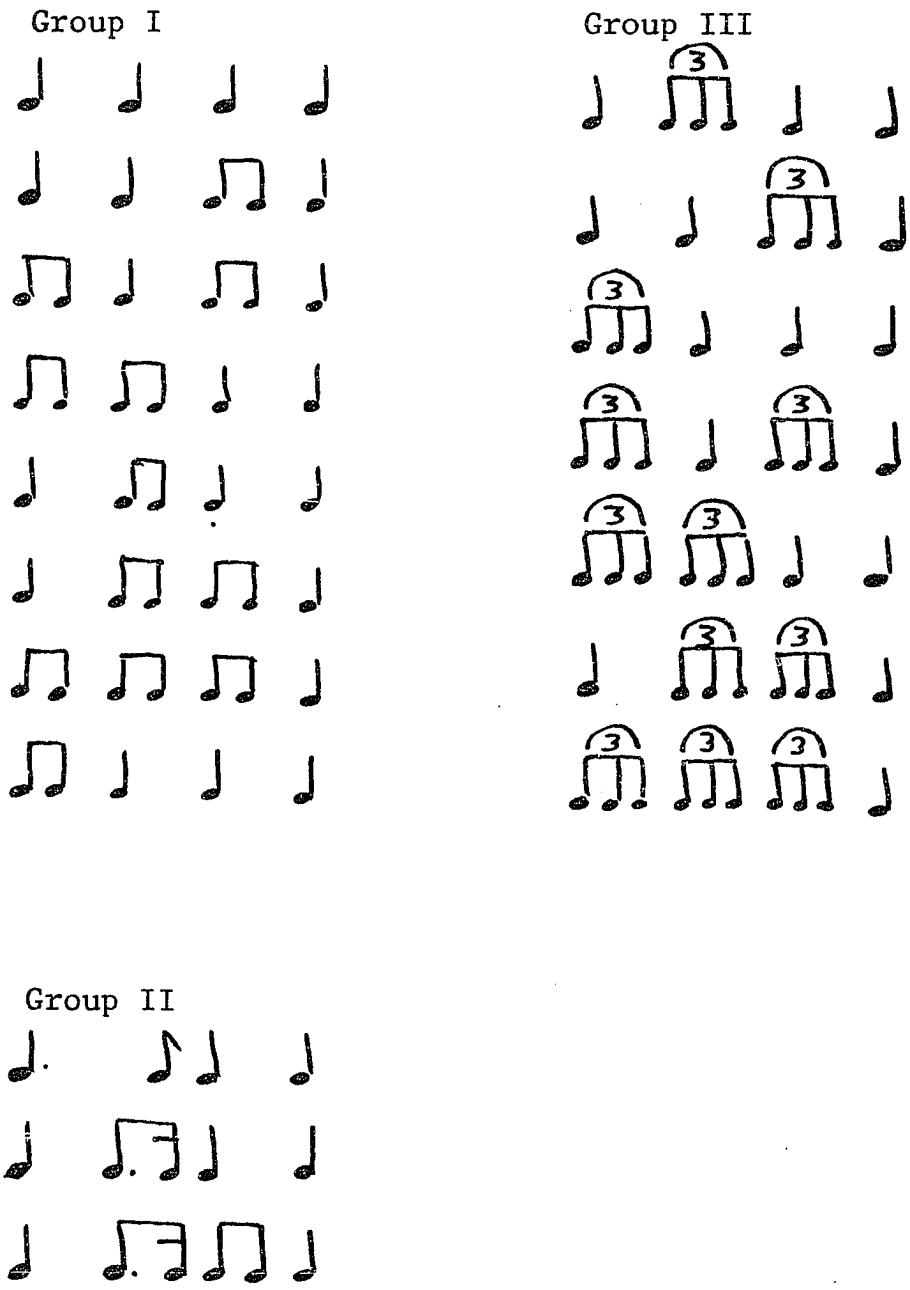

Figure 48a. Four beat measure clapping patterns.

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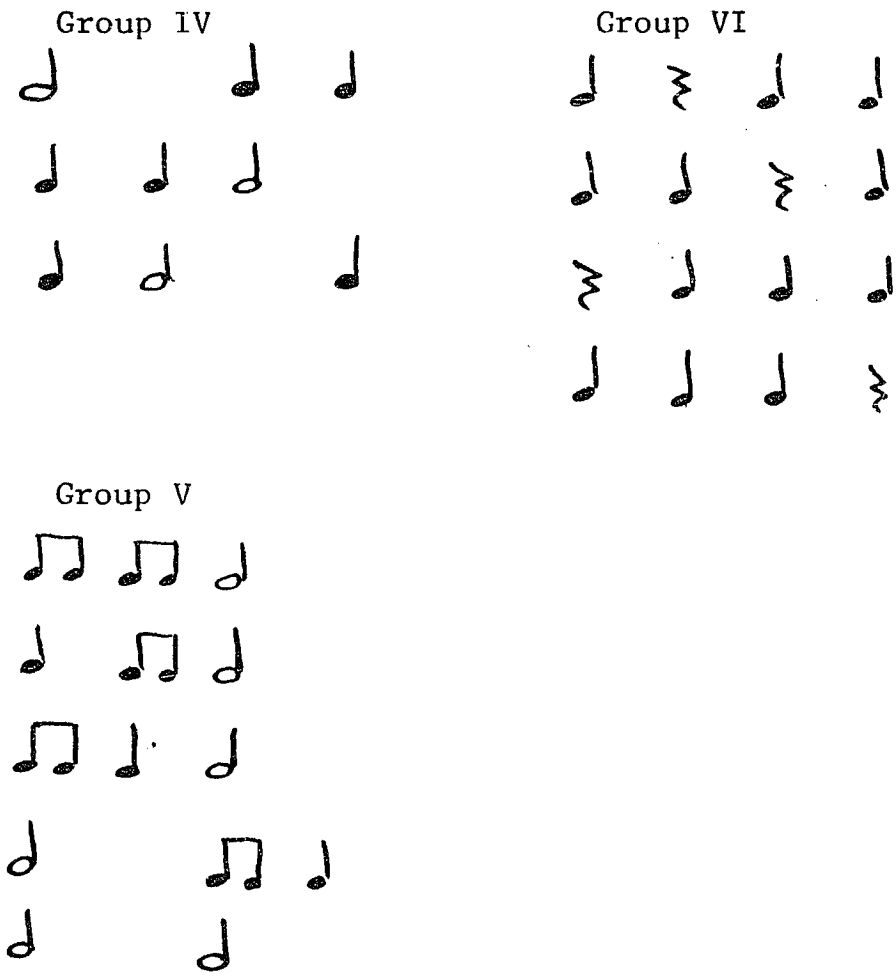

Figure 48b. Four beat measure clapping patterns.

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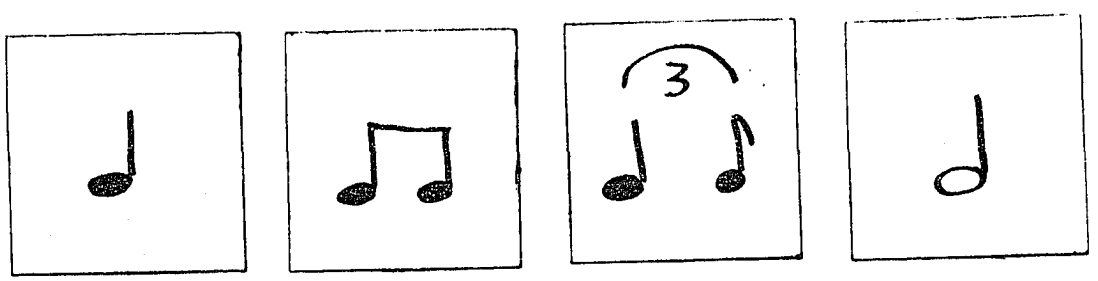
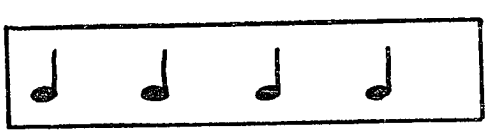
Doing nothing that makes noise with the hands is definitely more difficult than clapping; therefore, the patterns which contain half notes come later and the ones with rests are added last. It is helpful to have the children swing their hands on the second beat of a half note. The pattern, quarter, quarter, half (♩ ♩ 𝅗𝅥) would be performed, clap clap clap swing, with the hands remaining together on the swing. For the quarter rests, the hands are swung out away from each other on the rest. It is important that the elbows are free and away from the body during the clapping exercise.

After a good deal of experience with the above patterns, the rhythmic notation for the patterns is introduced. The pre-requisite for this is seeing the pictures of the notes on the cards which accompany the movement of the march, run, skip, and sedate walk on the line.



The procedure is as follows:

1. A card is shown with one rhythm pattern.



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2. The rhythm is clapped by the leader, the children immediately echo the pattern.

3. The pattern on the card is repeated a number of times. The children look at each note while they clap. The leader may point to the notes if necessary.

4. Introduce as many more cards in the lesson as the group is able to handle.

It is important that the cards be large so that a strong visual impression is given and the notes are easy to follow. When the group has become quite proficient, any two cards may be choosen and one clapped right after the other. Montessori said, "It is sufficient to let the child hear each exercise first and he will repeat it with precision. Thus all kinds of dry explanations of musical values disappear."[2]

At a later date, two cards may be shown. One of the cards is clapped by the adult and the children indicate which one was clapped. Gradually, more and more cards may be in view for this exercise. Still later, the children may notate what they hear. Finally, rhythms are clapped and the children write the patterns without having the cards in view.

Parallel to the above is a development in clapping in time to the movement on the line. Montessori writes:

> Finally, many of the children beat time with their hands, and interpret correctly without ever having been taught distinctions between 3 and 4 time, etc. When a keen interest in "guessing" the time is awakened in

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them, the children look about for various objects - wands, tambourines, castagnettes, etc., and the class exercise is developed to perfection. The child comes to be "possessed" by the music. He obeys the musical command with his whole body and becomes more and more perfect in this obedience shown by his muscles. . . . It is no longer a question of the step, but of the position of the whole body: arms, heads, chests are moved by the music. . . .

The transition from following the time by ones (that is, one beat for every rhythmic element) to the indication of simply the beginning of the measure (that is, one beat on the thesis) appeared for the first time in a "Children's House" directed by Miss Maccheroni. There, one morning when the children were following the music with great pleasure, marching about and beating on tambourines, it was a girl who first caught the strong beat (thesis). A little boy behind her made the conquest a second later; but while the little girl lost what she had gained almost immediately, the little boy developed it to perfection. Shortly after other children made the same progress, apparently as a saving of effort: they began, that is, by beating once on every step. This required a rapid movement and an endless succession of beats. All of a sudden they began to beat on the first note of a measure.

Here, for instance, is a case of 4/4 time:

The children at first marked the time without regard to the measure, thus:

But the moment comes suddenly when they catch the measure: then they beat it as follows:

In other words, their beats fall only on the first note of the measure. . . .

In practise, children, to whom the six tunes we proposed for the beginning of this study were played - and played always with rigorous musical interpreta-

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> tion and with expressiveness - succeeded in recognizing the first beat of the measure as "strong," and went on thus to divide into measures some thirty pieces of music of varied rhythm. Even the following year, after the summer vacation, they kept asking for new pieces of music just for the "fun" of working out the measure in them. They would stand at the side of the teacher at the piano and either with their hands or with soft playing on the castagnettes or tambourines, accompany their new piece of music. In general they would listen in silence to the first measure and then fall in with their little beats like any well-trained orchestra. They took the trouble no longer to march to the music: they were interested in this new form of study; while the smaller tots, delighted with the new music, were still walking undisturbed along the elliptical line on the floor which was to guide them to such great conquests![3]

The next step after children have acquired the ability to clap or play a percussion instrument on the first beat of a measure, is to provide them with musical exercises in which they march ". . . so as to put one step on every note".[4]

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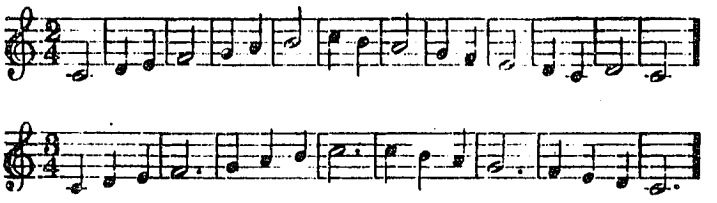
Even children of four years when prepared with the preceeding exercises succeed in following these with the very greatest interest. They are especially delighted with the long note which keeps them hanging in position with one foot in front of them on the line and the other one behind them also on the line. The position is that of a person who stops before bringing up the foot which is still behind him.

Since the children already know how to read music [that is, pitch notation], there is hung up before them a green chart (similar in dimensions to the musical staffs already familiar to them) on which is written the exercise which is being played at the piano by the teacher and which they execute on the floor-line.

Examples:



Here is another:

We even give a simple tune like this one (composed by Professor Jean Gibert of the Montessori Primary School of Barcelona):

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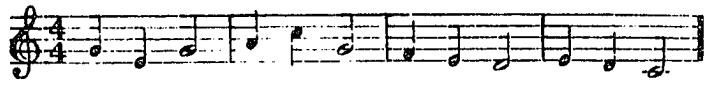

Of course, sooner or later children fix their attention on the varying form of the notes and discover that this difference in form bears a relation to differences in time-value of the notes:

This is the time to give in very brief explanation the lesson on the value of the notes. Thereafter the child may write from memory a simple melody which the teacher has first played on the piano. Almost always the child writes this down with accuracy, showing that he has control over the musical values appearing in the melody in question. The child uses for this purpose a large green chart containing various musical staffs on which moveable notes may be fixed at pleasure. These notes are equipped with a pin which may be pushed into the wood. The simple exercises given for the analysis of the measures, transferred into various keys, can after some practise in playing them on the system of plates be put into their copy books by the children. These exercises for measure-analysis are so simple that the children themselves have sometimes learned to play them on the piano. It then has happened that the class went of its own accord into the piano room; one child began to play and the others followed the music on the floor-line. The children as they walk ultimately come to sing the scales and the easy tunes (of which they have recognized the notes) pronouncing the names of the notes; but in so pronouncing them they soften their voices to the point of attaining an expression which may be called even artistic.[5]

At the Montessori Center in Vienna, a very inventive music teacher named Christine H. Baer-Frissell used a felt board and felt notes for these exercises in notation.

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Maccheroni described a box with a stand in which a collection of pieces were kept for studying the value of notes along with boards on which to pin notes. (See Figure 49.)[6] A sectioned box was also described which contained clefs, notes, rests, sharps, flats and naturals. (See Figure 50.)[7]

Maccheroni's directions for the use of the collection of pieces are as follows:

Preface to Book II.

I. Ear training in relation to value of notes means that one can hear the length of a sound, and recognize if it is the same length as another sound. The sense of dimension is as common as the sense of pitch, or of shade or colour, etc. It only needs to develop and to be trained.

The length of a sound must be taken as a whole, not as an addition of short sounds.

Movement is an important help to ear training in relation to length of sound.

In the following exercises children sing and move, doing one movement with each note. With a long note the movement is slow. This is the best opportunity to perfect every detail of aesthetic movement: steps, raising of the arms with regard to each joint, turning the body without moving the feet, bending the knee in a deep curtsey, etc.

With a short note the movement is rapid. Rapid movement has a special technique. With very short notes only one finger may be moved. With this slight movement different feelings can be expressed: fear, irritation, humour, etc. Very quick steps can express fear, or hurry.

The beauty of the movement and it's value as an expression of feeling can have a deep relation to the length or value of notes.

II. These exercises are presented to children on a large light-green board on which are pinned black

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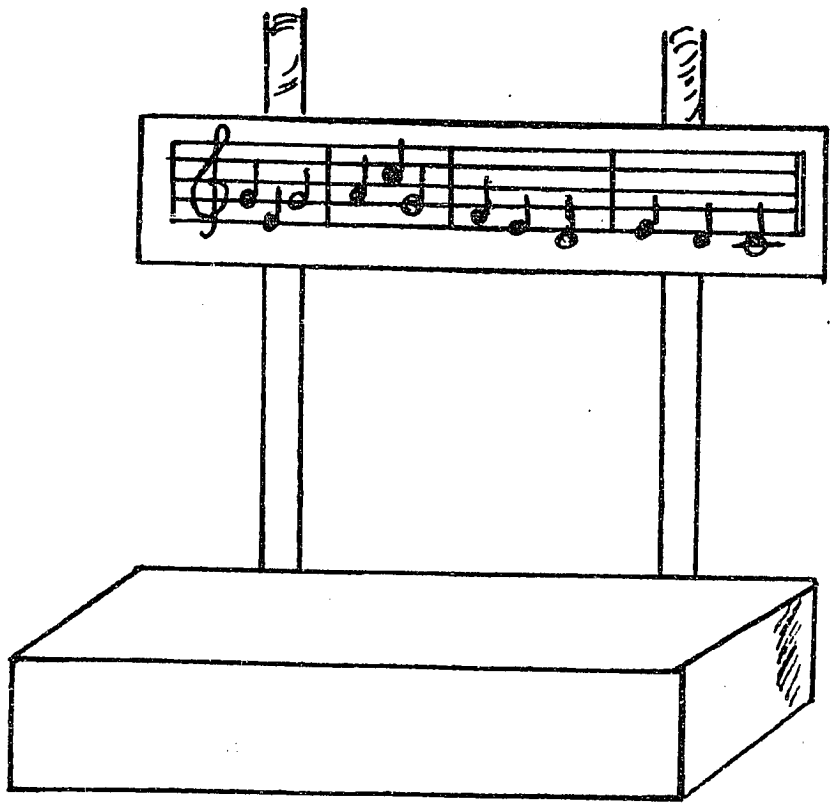

Figure 49. Box with stand designed by Anna Maria Maccheroni for collection of pieces.

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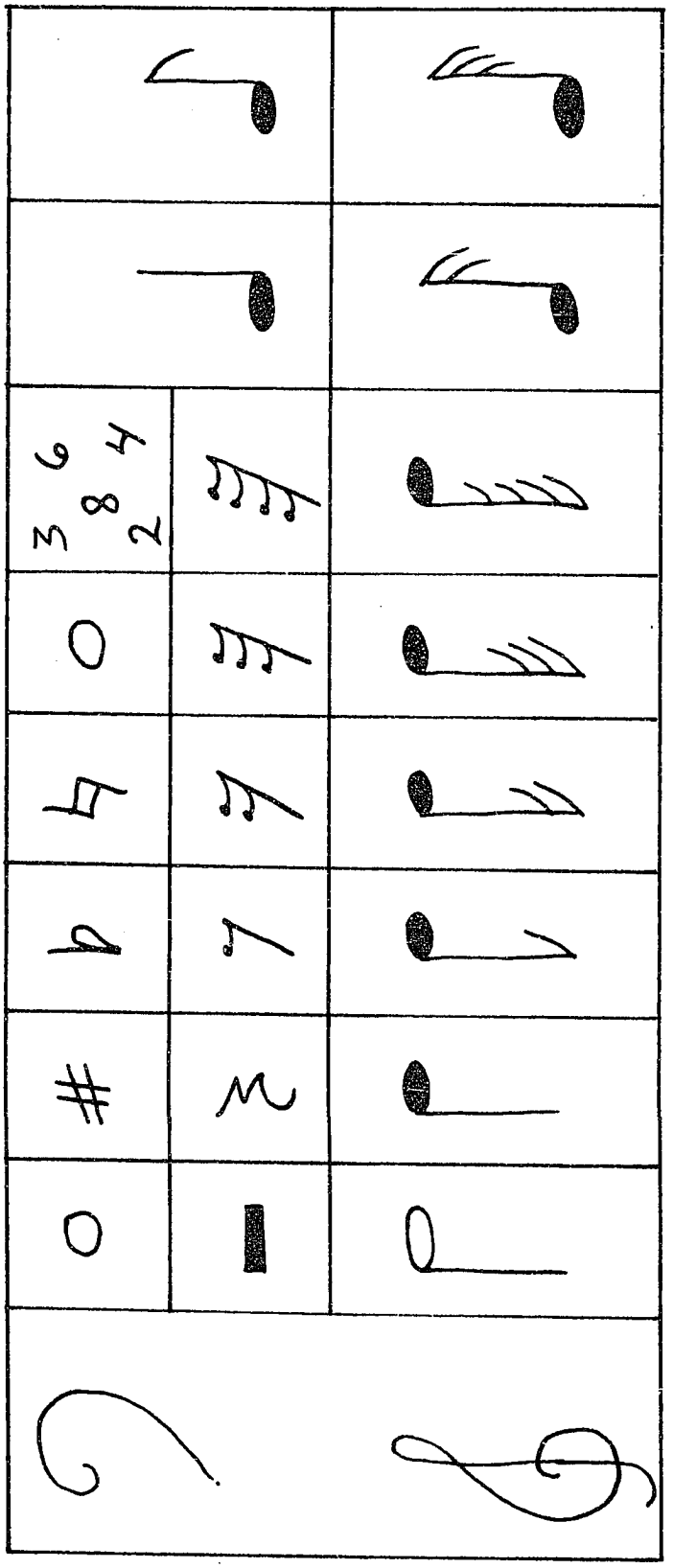

Figure 50. Maccheroni's box of musical symbols.

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notes. On the cardboard under the staves is a large space, where notes can be put representing their value only, without any indication of sound pitch.

The following exercises can be taken in any order, here they are arranged in the order which has been found easiest.

The notes to be pinned on the board are kept in a box with compartments.

III. The teacher plays the exercise once or twice, and the children sing it.

Then they practice the movements a little without music, and afterwards they sing and move.

The length of a semibreve [whole note] is the longest that children are able to produce without effort.

During a rest the children do not move. If one group of children is singing while other children keep the rest, only those children who are singing make the movements.

Individual singing is so much practiced as to be a usual feature of each lesson.

IV. The bars; the teacher pins on the board, but not on the stave, one bar or two . . . Children sing it on the scale. Children build up a bar containing different values. . . . It is interesting to see how many different bars can be written with only these three values: 𝅗𝅥 𝅗𝅥 𝅗𝅥 . This exercise requries calculations or additions of values. (There are small cards to guide the child when he works by himself composing various bars.)

V. Many exercises (as nos. 16, 17, 18, etc.) suggest a whole action. Children sing and move all together or in groups, or individually, combining a complete action. For example no. 25 can be done by a group of children each one of them doing one bar, the same is done with the second half of the tune.

VI. Words and sentences can be found to fit a 2/4 bar, a 3/4 bar, etc. And then sentences can be found by the children to accompany any of the exercises. This is most fascinating, and children will be only too pleased to work out the composition of words during their class study.

VII. To sing long notes with an even voice, to sing many short notes uttering the voice regularly, etc.

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require good practice. Children sing with and without accompaniment. The teacher plays the exercise with and without harmonization. When several exercises have already been presented, the children read off any of them at sight, without accompaniment.

It is good practice to sing very softly, and also quite loudly, but never too loud. Also Crescendo and Calando can be practiced, starting the scale very softly, and reaching the octave with a loud voice. Then Calando the voice goes down to piano. To sing staccato requires a special technique.

VIII. Memory: A child puts on the board one of the previous exercises. The teacher plays it as it is. If there is a mistake, the children hear it, and correct it. The mistake may be in the position of the note on the stave, and then the sound is wrong, or in the shape of the note, and then the value is wrong.

Dictation. The teacher plays one exercise similar to a previous one, meanwhile a child forms it on the board with moveable notes.

Eye training, which is also most important, has been carried on throughout this book, so that the children seeing a note written almost hear it's sound and it's proper length. The same thing, of course, happens with written words, the mere sight of a word makes us say it.[8]

A somewhat different description of the rhythm notation work is to be found in booklet five, Disegno Ritmico, of the series of thirty-five booklets which Maccheroni wrote in Italian. The following is a summary of booklet five.

Strips of light green cardboard are prepared on which are glued black circles approximately 1.8 centimeters in diameter.

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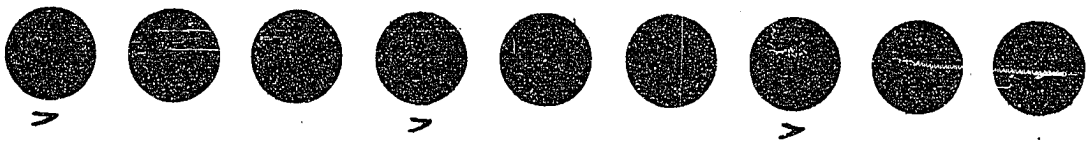
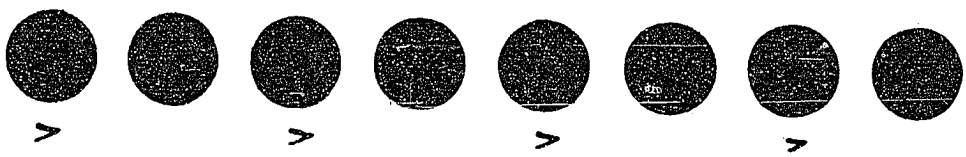
Strip 1

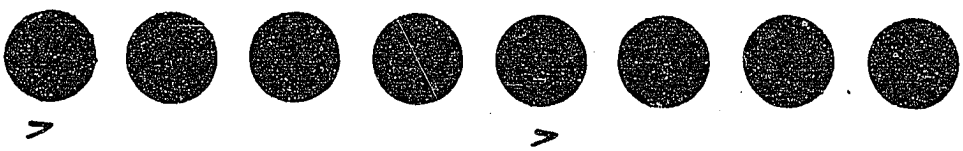
Strip 2



Strip 3



Strip 4



With each chart the children walk on the line while clapping their hands or beating drums or hitting small tambourines which have no metal discs. Then they stand still and clap or play the percussion instrument. A child may point to the circles on the cardboard strips one at a time with a stick, thus helping the other child-

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ren to follow the notation with their eyes. The first strip has no accent so all movements are even. On the other chart a slight accent is given to accented notes. The children feel the difference in the flow of the rhythm given by the different placements of the accents.

Chart 1

The name of the note is sung making the accents audible but without exaggeration.

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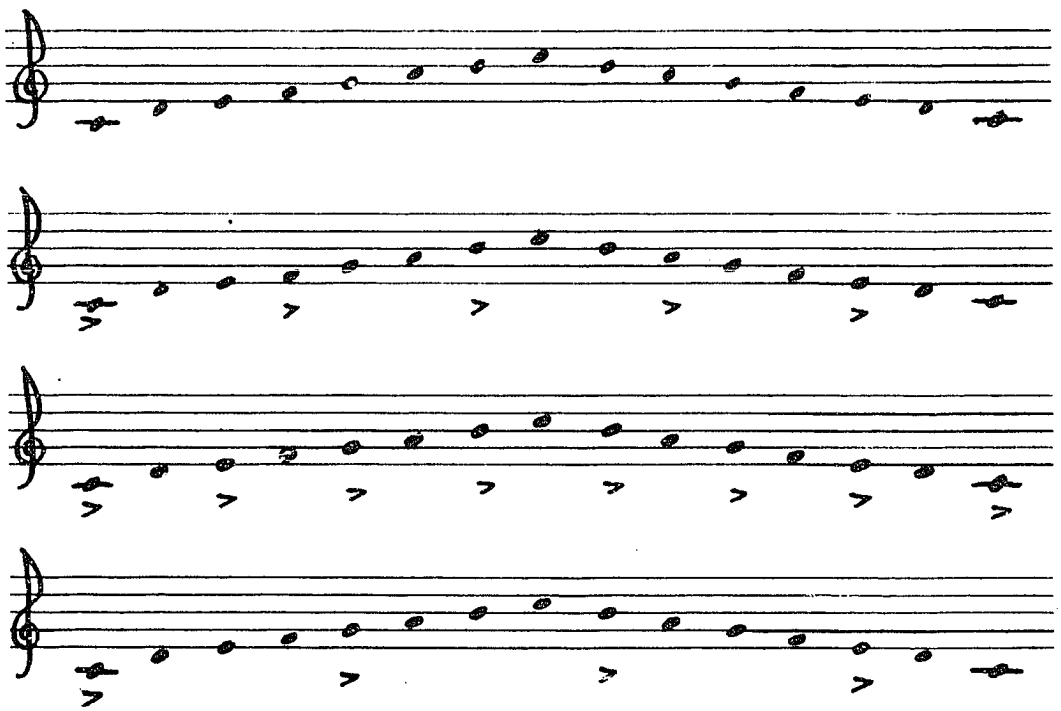
Chart 2



The scales are played on the bells and then sung with or without the bells. The rhythmic movement makes the accents felt.

The idea of rests are introduced by covering notes on the strips of green cardboard. All possible ways of covering the notes in a regular pattern are shown. The children repeat the same procedure as before, walking and clapping or playing a percussion instrument and then just clapping or playing the percussion instrument. The difference is that for the covered note, there is no movement or sound. Different patterns of covering the notes pro-

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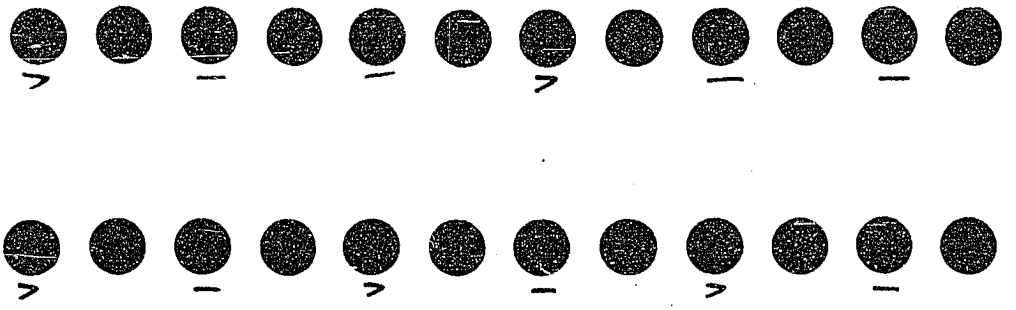
duce entirely different feelings in their execution. (See Figure 51 for the different ways to cover the ntoes.)

Secondary accents are shown in the second series of strips.



The primary accents (>) are emphasized but are not hit too hard, the secondary accents (-) receive a slight emphasis and the rest of the notes are hit softly.

Various activities with the strips:

1. The leader beats or claps one of the strips and a child performs it exactly as it was heard.
2. A child looks at one of the strips (with or without hidden notes) and performs it.
3. The strips are placed in view. One is performed. A child picks out the one which was played.
4. One of the strips is performed. A child writes the notes on a chalk board and adds the accents.
5. The child writes on the black board or on paper as many of the strips as can be remembered.
6. The child performs as many strips as can be remembered.

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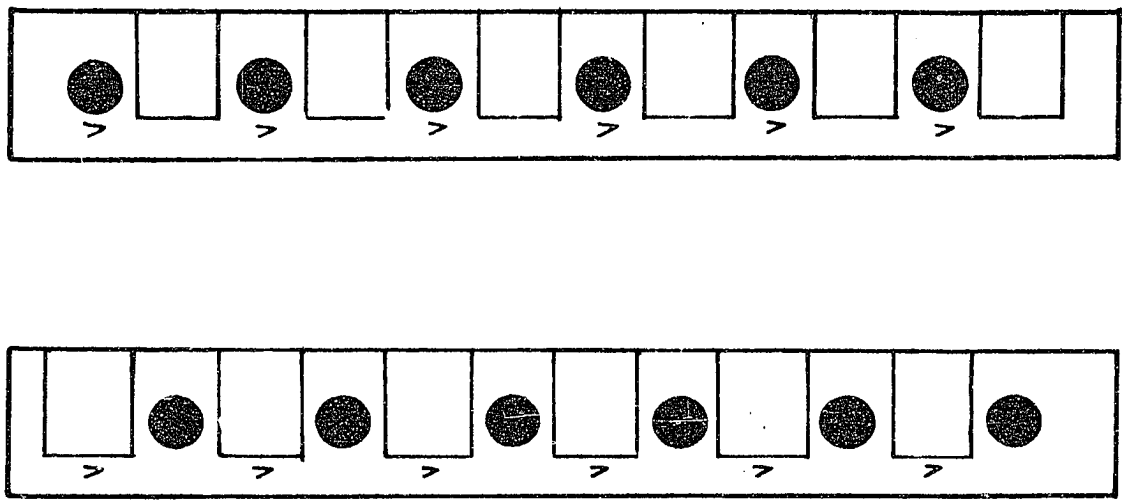

Figure 51a. Covering notes whose accents are on every other beat.

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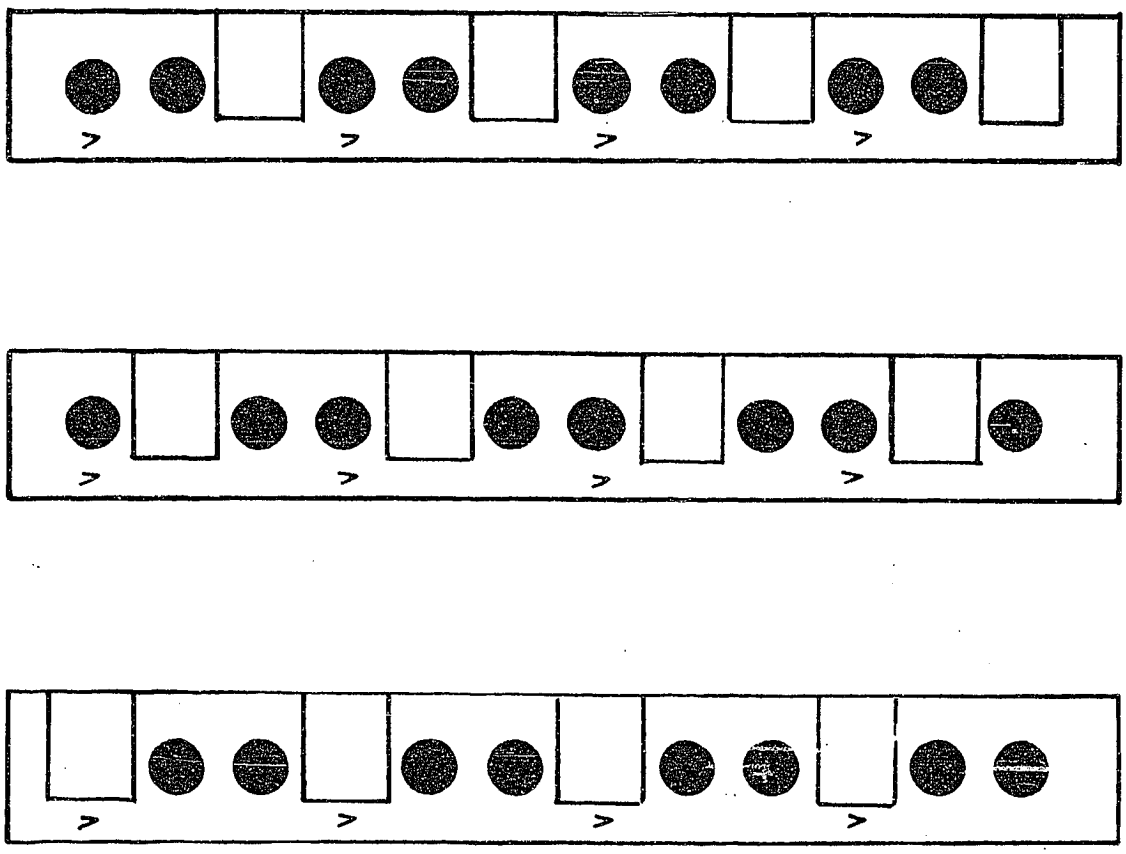

Figure 51b. Covering notes whose accents fall on every third beat.

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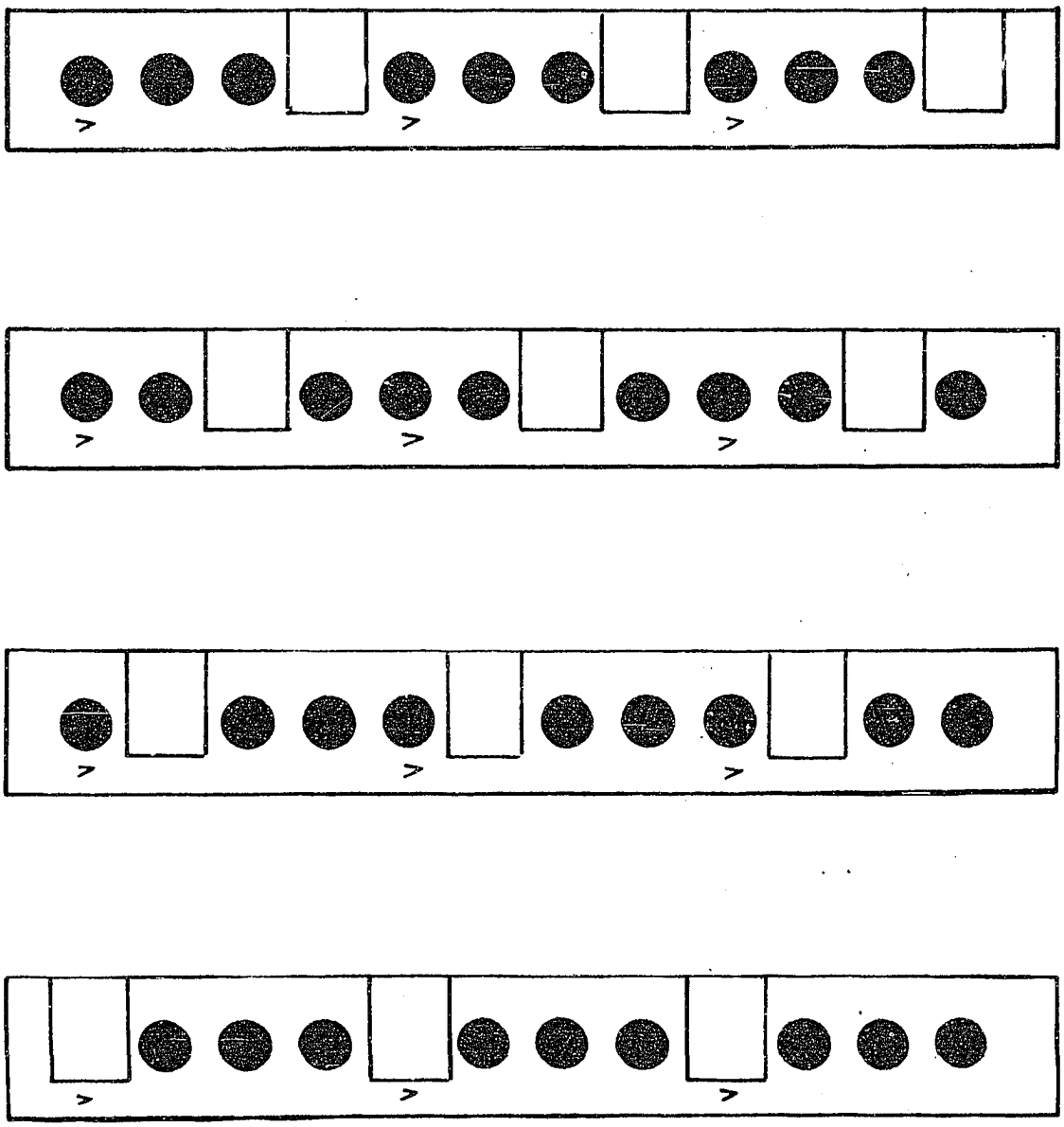

Figure 51c. Covering notes whose accents fall on every fourth beat.

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7. The child looks at a strip and listen to it inside his or her head.

8. Any of the strips from the first series are taken, some of the notes are covered. The child then performs it.[9]

Just as children look through books to find phonogram sounds (e.g., ai, ea, ie, ch, sh, etc.) so can they look through music to find particular rhythmic patterns in specific measures. They may pick out any rhythmic pattern they have mastered for this search in any of the musical material to be found in the class. Later they may pick out differently accented patterns and do the same.

Rhythm patterns may also be associated with chants. As always, the sensorial experience comes first, notation comes later, followed by dictation. The adult gives a few examples and then solicits suggestions from the children. When rhythmic notations have been introduced in other exercises, the chants may be notated. A pattern may be choosen and more chants made up to go with it. Finally, the leader picks a chant and performs it and the children notate the chart with rhythmic symbols. Examples of chants may be found in Figure 52.

In the elementary school this leads into the study of metrics in poetry. An extensive description of this may be found in Dr. Montessori's book, The Montessori Elementary Material, pages 383 to 406.

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One, two, tie my shoe,
Three, four, shut the door,
Five, six, pick up sticks,
Seven, eight, lay them straight,
Nine, ten, big fat hen.

Hor-ses neigh,
Li-ons roar,
Cats me - ow,
Eag-les soar.

Lis-ten to the bird sing,
It is in the tree-top.

Snow flakes fall gen-tly down,
Rain drops fall har-der still,
Hail stones beat like a drum.

Now that its November, the frost is in the air,
Where can I find mit-tens or gloves, my hands are bare.

Where did the sun go?

Good-bye, I must go.

Figure 52. Chants with rhythm patterns.

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CHAPTER VIII - FOOTNOTES

[1]Anna Maria Maccheroni, Melody Music Book, (London: Philip & Tacey, Ltd., n.d.), introduction.

[2]Maria Montessori, The Montessori Elementary Material, trans. by Arthur Livingston, (Cambridge: Robert Bentley, Inc., 1965), p. 342.

[3]Maria Montessori, Elementary Material, pp. 350-353.

[4]Maria Montessori, Elementary Material, p. 357.

[5]Maria Montessori, Elementary Material, pp. 357-360.

[6]Anna Maria Maccheroni, Lunghezza Della Note In Brevi Melodie (unpublished booklet No. 4, from AMI's private collection), p. 1.

[7]Maccheroni, Lunghezza Della Note, p. 3.

[8]Anna Maria Maccheroni, Value of Notes - Music Book (London: Philip & Tacey, Ltd., n.d.), pp. 1-3.

[9]Anna Maria Maccheroni, Disegno Ritmico (unpublished booklet No. 5, from AMI's private collection), summary of pp. I, II, III and 1-9.

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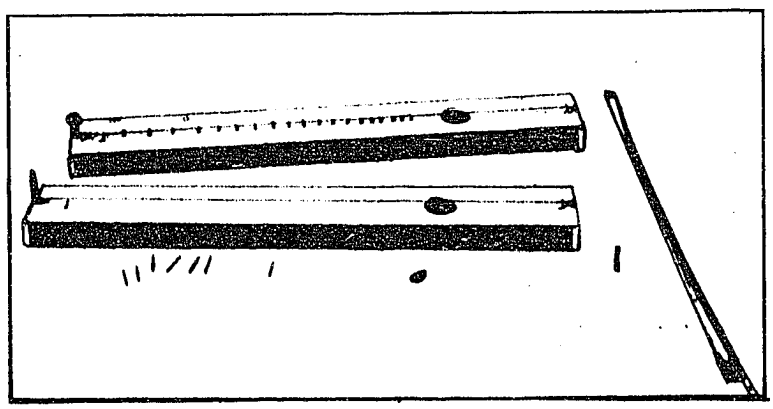
CHAPTER IX

MUSICAL INSTRUMENTS

Ideally, a variety of musical instruments should be available in a Montessori environment so that the children may both explore different kinds of musical mediums and produce music or musical instruments.

Montessori spoke of a stringed instrument called a monochord. The following picture and caption is from Dr. Montessori's book, The Montessori Elementary Material.[1]



The monocord. In the first instrument the notes are indicated by frets. On the monocord in the foreground the child places the frets as he discovers the notes by drawing the bow across the string.

Montessori wrote:

> One of the instruments which brings the child to producing and recognizing notes is the monochord. It is a simple, resonant box with one string. The first exercise is in tuning. The string is made to correspond with one of the resonant prisms (do). This is made possible by a key with which the string can be

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> loosened or tightened. The child may now be taught to handle the violin bow or mandolin plectrum, or he may be instructed in the finger thrumming used for the harp or banjo. On one of our monochords, the notes are indicated by fixed transversal frets, the name of each note being printed in the proper space. These notes are, however, not written on the other monochord, where the child must learn to discover by ear the proper distances at which the notes are produced. In this case the child has at his disposal movable frets with which he can indicate the points he has discovered as producing a given note. These frets should be left in position by the child to serve as a check on his work. The children have shown considerable interest also in little pitch-pipes, which give very pleasing tones.[2]

The author has obtained a mouth bow with a sliding bridge (see Figure 53) and the fretted neck of a dulcimer (see Figure 54) from a folk instrument shop in Minneapolis, HERE, Inc. 29 S.E. Main Street, Minneapolis, MN 55414. The mouth bow with the sliding bridge gives children the possibility of exploring the tones that result from increasing or decreasing the length of a vibrating string. (The children are not shown how to use the mouth as a sound chamber.) The fretted dulcimer neck allows for somewhat the same kind of exploration. Melodies may be played on the dulcimer neck. For a more resonant tone, a dulcimer with one string could be used for the same purpose. It should also be possible to get a dulcimer neck without frets; however, it seems to this author that it would be exceedingly difficult to place frets on a smooth neck and

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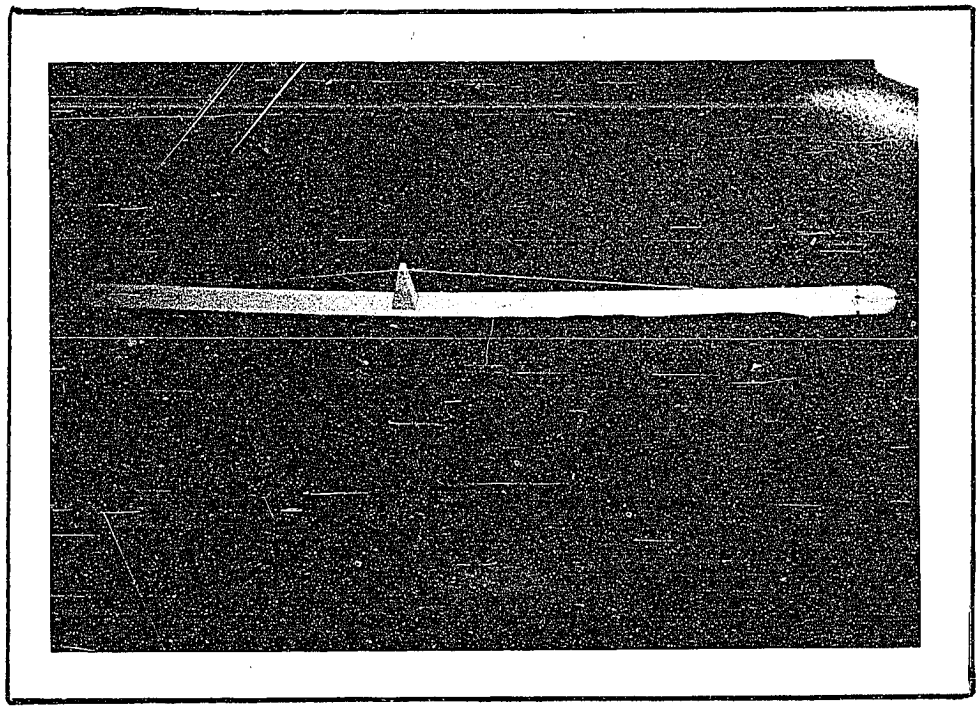

Figure 53. Mouth bow with sliding bridge.

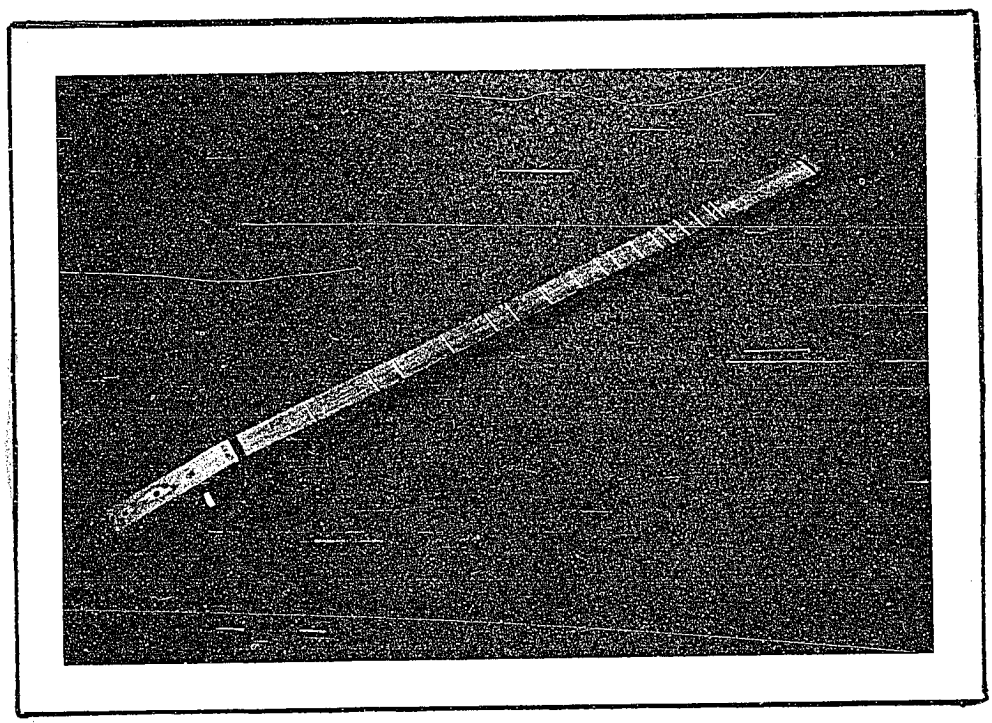

Figure 54. Dulcimer neck with frets.

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expect them to stay in place.

Other stringed instruments on which melodies could be played include the psaltery (zither) and the hammered dulcimer. Both are good for an exploration of stringed instruments for playing melodies.

The miniature keyboard advocated by Montessori and Maccheroni has been described in Chapter VI. The bells and tone bars are standard pieces of Montessori equipment. The bells should be a part of every Montessori classroom for three to six year old children while the tone bars are for the elementary age. A piano provides an excellent medium for exploration and creativity.

Some of the apparatus required for experiments with sound described in Appendix II may be used as melodic instruments.

"Orff" xylophones and glockenspiels are excellent additions to any classroom. Their tone quality makes them well worth the investment. Their bars may be easily added or removed thus making available pentatonic, diatonic or chromatic scales. Several instruments set up with the same pentatonic scale may be played by several children at the same time. The resulting sounds are pleasurable to the children.

Percussion instruments in the classroom have been mentioned a number of times in previous chapters. Before

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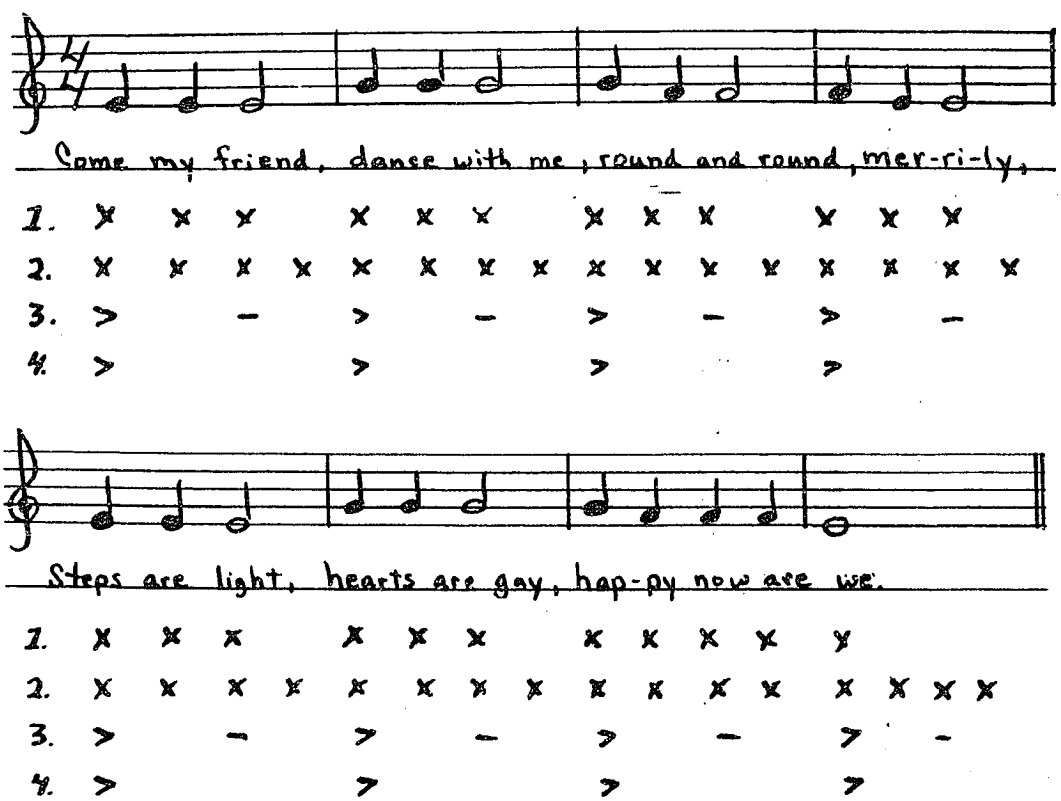
any of these instruments are formally presented, the children may be introduced to tapping pulses in songs. Initially they tend to tap with the words, then with the beats in the measure, and then with the accents. The various ways of tapping are indicated as follows under the words.

1. Tapping with the words.
2. Tapping the beats in the measure.
3. Tapping primary and secondary accents.
4. Tapping primary accents.



The tapping itself is done by striking the extended index fingers against each other. Just as in the clapping

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exercises, it is important that the participants are sitting symmetrically and the elbows are slightly away from the body.

Although the percussion instruments give children the opportunity of playing together with a steady pulse, the emphasis here is on timbre rather than rhythm. These instruments are not well suited to teaching rhythmic notation because the sounds they produce are not sustained.

For a class that contains approximately twenty children ages four and five years old (in a class of thirty to thirty-five children ages three, four and five years old) the following instruments are recommended as a basic set:

5 triangles with a cloth case for each.
5 sets of bells
2 to 4 maracas
10 pairs claves (rhythm sticks)
3 or 4 tambourines (6 inches in diameter)
2 to 4 hand drums (no larger than 10 inch diameter)
1 woodblock with two pitches
2 cymbals

In order to get good quality, the instruments should be selected at a store rather than ordered from a catalog. It is especially difficult to get good cymbals. If good ones cannot be found, leave them out. Other instruments, such as Indian bells, drums etc., may be added.

Specific rules for the introduction of these instruments include:

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1. Every child gets at least one turn to actually play the instrument being presented.
2. The experience is paced in such a way that there is a minimum of managing and a maximum of playing.
3. The instruments are introduced one at a time so that children can experience them in isolation.
4. Each instrument is introduced with a song that is appropriate to the sound of the instrument.
5. The songs used for the introduction are already known by the children.[3]

The same general procedure is used for the introduction of each of the percussion instruments. The children are invited to sit crosslegged in a semicircle on the floor with their hands placed on their knees. It is important that their bodies be symmetrical. The instruments to be introduced are placed on the floor in front of several children. (If there are twenty children and four instruments, one is placed in front of every fifth child.) The adult calls attention to how quietly the instruments are being placed by saying, "Listen. I won't make any sound." The instruments are to remain on the floor when not in use during the lesson. The adult picks up an instrument and says and does the following:

1. Gives the name of the instrument.
2. Says, "This is how it sounds. Listen." The adult makes the sound.
3. Says, "Look. This is how it is held."
4. Says, "This is how you play it. Watch." The adult plays it.

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The adult then plays the instrument while singing a song the children already know. The children may sing along if they wish but frequently they don't because they are concentrating on the sound of the instrument. After the leader has finished the song the children are instructed to pick up their instruments and play them with the same song. The children who do not have instruments may tap with their fingers if they wish. When the song is finished the children set their instruments on the floor in front of the child to their left. This is repeated until all children who want a turn have had an opportunity to play. In many instances, the children will play the instruments in the same sequence as was done with tapping the songs; that is, first play with the words of a song, then with the pulse of the song, later only with the accents.

Since rhythm sticks are the least expensive to purchase or make, a class may easily have ten pairs. This means that the lesson which introduces the rhythm sticks will require the least amount of waiting for a turn on the part of the children. The same song, "A Little Dancing Tune", that was used for finger tapping may be used for the introduction to the rhythm sticks. The rhythm sticks are played by striking the sticks together at their centers while each hand holds one end of each stick firmly. Claves are rhythm sticks which are made of very hard wood.

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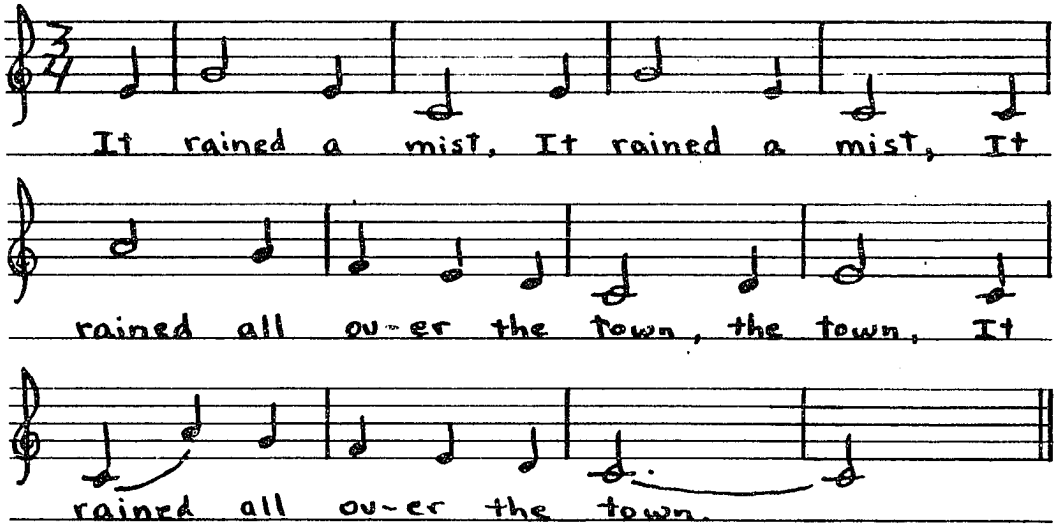
Their sound is brilliant and piercing and they are used in orchestras and bands. They are held in a different manner. A cup shaped sounding chamber is formed by the sub-dominant hand and one clave is place across it. The end of the other clave is held by the dominant hand. The end of the clave is used to strike the middle of the first clave.

The maracas may be introduced with the song, "It Rained a Mist", a folk song from the state of Virginia.



Since the children make suggestions for changing the words in response to the question, "What'll it rain on this time?", it is easy for the song to be repeated often enough for everyone to have a turn with the maracas before interest in the song is lost. The instrument is held by its handle and shaken up and down, or sideways or it may be tapped. With this song it is shaken gently sideways

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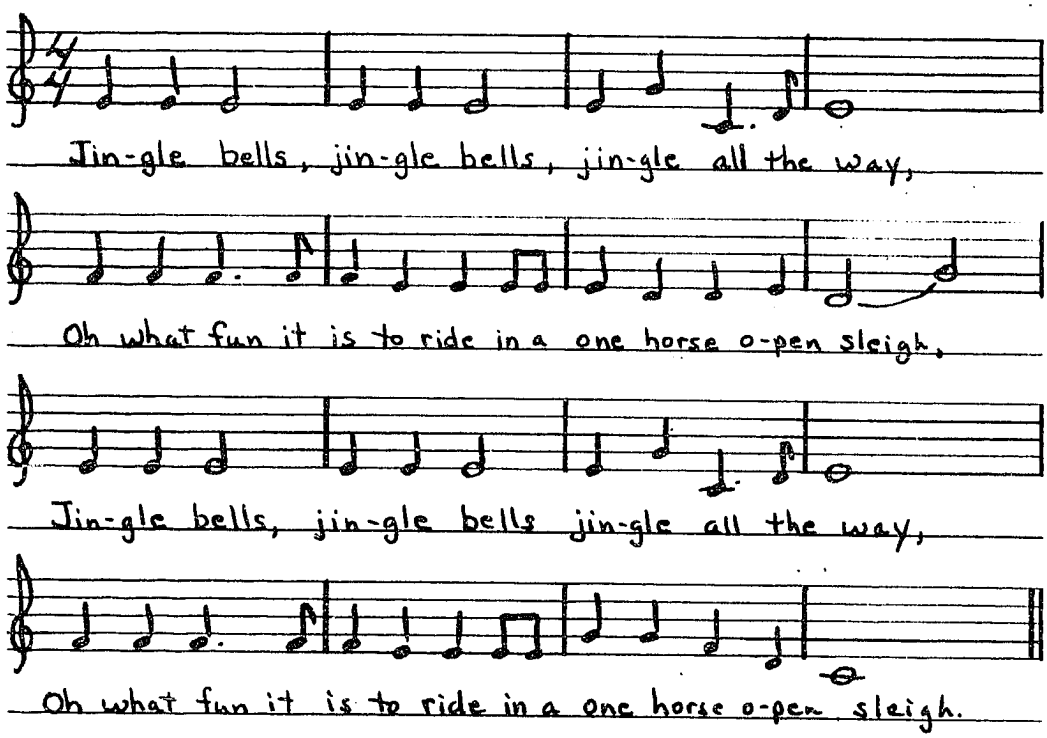
to make a sound like rain.

In the United States and Canada, the song, "Jingle Bells", is the logical choice for introducing the small bells.


Jin-gle bells, jin-gle bells, jin-gle all the way,
Oh what fun it is to ride in a one horse o-pen sleigh,
Jin-gle bells, jin-gle bells jin-gle all the way,
Oh what fun it is to ride in a one horse o-pen sleigh.

The small bells are held by the strap or handle between the thumb and fingers of the dominant hand. The bells are shaken up and down.

The triangle is introduced with the song, "Twinkle, Twinkle Little Star".

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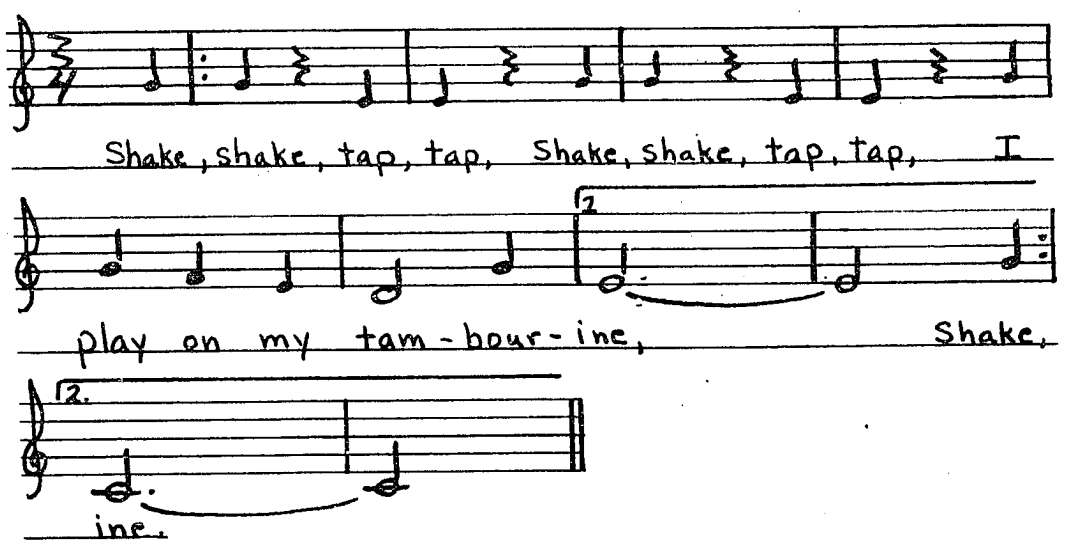
Twinkle, Twinkle Little Star
Twin-kle, twin-kle lit-tle star, How I won-der what you are,
Up a-bove the world so high, like a dia-mond in the sky,
Twin-kle, twin-kle lit-tle star, How I won-der what you are.

The triangle is held by its string in the subdominant hand. The end of the metal striker is held between the thumb and first two fingers of the dominant hand and used to strike the side of the triangle that has no open end.

The tambourine is introduced with a song about a tambourine called, "Shake, Shake, Tap, Tap".



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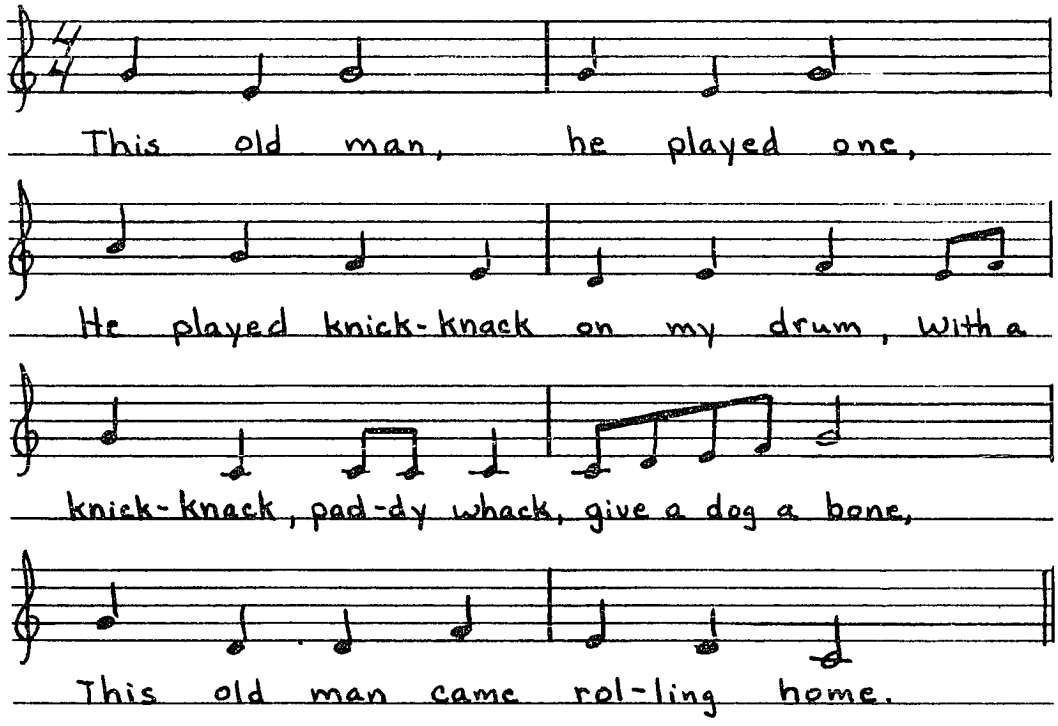
The rim of the tambourine is held in the sub-dominant hand. It may be either shaken by that hand or struck by the knuckles or heel of the dominant hand.

"This Old Man" is a good song for the introduction of the drum.


This old man, he played one,
He played knick-knack on my drum, with a
knick-knack, pad-dy whack, give a dog a bone,
This old man came rol-ling home.

The sub-dominant hand either holds the drum (if it is a hand drum with a handle) or steadies the drum (if it is an Indian tom tom type) in the lap. One of the drum sticks is held in the dominant hand. The head of the drum stick is gently bounced against the center of the drum head.

After the percussion instruments have been intro-

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duced, a number of different exercises may be used.

1. "The Copy Cat Game":

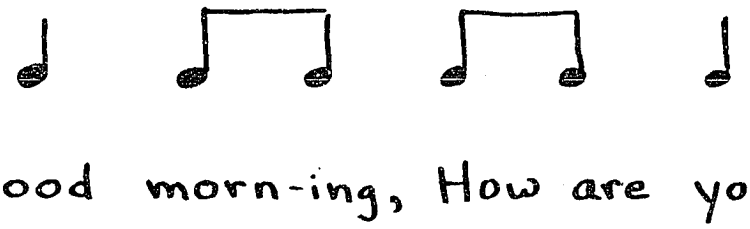
   Three to five pairs of children are needed for this game. Each child in a pair has the same kind of instrument as the other child in the pair. The pairs sit facing each other in a line. One member of a pair plays a rhythm and the other member copies it as exactly as possible. Each child has at least one turn to make up a rhythm and to answer their partner's rhythm.

2. "A Game For Pairing":

   Three to five pairs of children get instruments as in "The Copy Cat Game" only they sit in a line with their backs to each other. The leader exchanges the instruments of the children on one side of the line so that pairs are no longer opposite one another. The leader taps the shoulder of a child on one side of the line who then plays his/her instrument. The child on the other side with the corresponding instrument responds.

3. Conversations:

   Three to five pairs of children choose instruments and line up facing each other as in "The Copy Cat Game". The leader explains that the children will talk to each other and play their instruments at the same time. The leader demonstrates by speaking and beating out a rhythmic message such as:



   The pairs then take turns talking to each other. Later they talk without words using just the rhythmic beat of their instruments.

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4. Dramatization:

Three to five pairs of children choose instruments and line up facing each other as in "The Copy Cat Game". The children are told that they are going to act out little scenes on their instruments such as two people having an argument. To demonstrate, the leader may play a few beats slowly, loudly and forcefully on his or her instrument and then accelerate to an angry staccato. The children may discuss and express a whole range of emotional experience while absorbing elements of rhythm and dynamics.

5. "The Echo Game":

Any number of children many participate. Each chooses an instrument and sits in a semicircle facing the leader. The leader plays a rhythmic pattern and the children repeat it on their instruments.

6. Dramas:

A theme may be selected such as a thunder storm and instruments may be choosen to represent different parts (e.g. rain, people running, thunder, lightning). The leader narrates the story and the children with the choosen instruments provide the sound effects.

7. Ostinato With Improvisation:

Two adults lead the children in a continuously repeated rhythm. When they are secure in playing it, one of the adults improvises. Later, a child may do the improvisation.

8. "The Full Band":

The instruments are categorized by having the children decide which instruments fit into the following categories:

a. loud sounds
b. soft sounds
c. medium sounds (This category is used if the children decide that some instruments do not fit the other two categories.)

An orchestration plan is made which designates

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places for the loud instruments, the soft instruments and the medium instruments. The leader should have this plan in mind ahead of time in order to avoid management problems.

To begin with a song is played by the adult and the children are asked whether that should be loud, soft or medium instruments. The appropriate instruments then play along with the song while the rest of the children sing. The adult tells the children to watch his or her head because it will tell them when to start and stop.

Later a piece may be played that uses both loud and soft. The piece is played for the children and they decide how it is to be orchestrated.

The leader may tell the children that they are going to play a piece called "Loud and Soft" (or "Loud, Medium and Soft"). The leader simply conducts the piece, alternating among the groups of instruments. No melodic music accompanies it. The children may easily conduct this kind of piece. Some children will begin by simply pointing to the different groups while others will use actual conducting motions.

Eventually these exercises lead into a discussion of the form of music. Letters may be used to indicate different types of sound such as:

A = loud
B = soft
C = medium

Large charts may be made showing different combinations:

A	B	A

B	A	B

A	B	C

A	B	A	C	A

If each letter on a chart is to be played for four measures, then the first chart would have four measures of loud instruments, four measures of soft instruments and

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and finally four measures of loud instruments.

Large charts may also be used with different symbols for different instruments. The charts would contain tunes that are already familiar to the children.

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CHAPTER IX - FOOTNOTES

[1]Maria Montessori, The Montessori Elementary Material, trans. by Arthur Livingston, (Cambridge: Robert Bentley, Inc., 1965), p. 334.

[2]Maria Montessori, Elementary Material, pp. 337-339.

[3]Elizabeth G. Hall, music lecture from "Children's House Training Course" (2½ to 7 years old) 2nd course of the Montessori Institute of Cleveland, Cleveland, Ohio, March, 1979.

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CHAPTER X

GAMES AND MUSICAL EXPRESSION

Various games and activities build on the exercises of the previous chapters and offer the children opportunities to become conscious of such things as accents, dynamics, tempo, time signatures, musical form, etc.

When playing games an important thing to remember is "never to use games of elimination with small children because it is difficult for them to comprehend the reason for this elimination".[1] The embarrassment and hurt generated by games of elimination and/or games that have winners and losers will attach to the musical experience and thereby diminish the children's enthusiasm and delight in music.

Maccheroni described several rhythmic games using balls in her unpublished booklet, Camminiamo Con La Melodia (Let Us Walk With the Melody). The following is a summary of those games:

1. "Rhythmic Ball":

   A ring of elastic is put around a child's wrist like a bracelet. One end of a length of elastic is attached to the bracelet. A ball is fastened to the other end. On the primary beat of a measure the ball is let go or thrown and then caught on the secondary beat. A lot of practice is

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necessary to succeed. In this case one needs the kind of music which requires a rather slow step.

2. "Rolling Ball":

Two children sit on the floor in front of each other. They roll a ball back and forth to each other in the rhythm of the music.

3. "Pendulum":

A very large inflated ball which is very light in weight is hung from the ceiling. Two children seated on stools swing the ball to each other on the strong beats of the music. "Spontaneously the children make the appropriate gestures and adopt a fitting posture. In order to receive the ball they lean backwards (therefore they need a stool and not a chair). To throw it they lean forward. All this happens according to the primary beats of the measure. It is necessary to calculate the length of the thread and the distance of the stools from each other. It is a really fascinating game and one could hardly say who enjoys it more, the players or the spectators."[2]

Maccheroni also enumerated games of imagination which fit the primary beats of the measure:

-Rocking a doll, pressing the doll's clothes, while singing la, la, la, or a song.

-Using grand gestures such as those of the sower who throws wheat onto the plowed land.

-The gesture of the black smith who hits the anvil (appropriate music may be found in Il Trovatore.)

-Heavy stepping which is done by a person carrying a heavy sack on the shoulders.

-Throwing confetti into the air to show rejoicing.[3]

Sanford Jones described other rhythmical activities which employ both reality and imagination in his

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summer music workshop in Cleveland, Ohio in 1972. The following activities help children to become conscious of the rhythms within themselves and rhythms that are common in their environments.

1. The Heartbeat:

   The children sit symmetrically and become very still. The adult shows them how to find a pulse by touching the index and middle fingers to the side of his or her neck or wrist. After feeling the pulse the adult lightly taps the same pulse with a hand or on a drum. The children may join the tapping. Next the adult asks a child to find his or her own pulse (the adult may need to help the child), feel its rhythm and begin tapping it while the other children join in. Each child has a turn.

2. Pulses With No Sound:

   This activity helps the children become conscious of pulses in the environment which have no sound such as a flashing yellow caution light, a turn signal on a car, windshield wipers, blinking holiday lights, a light house beacon, the second counter in a digital clock, the pumping motion of an oil well, etc. The adult mentions that there are things in our environment which have a pulse but make no noise or which make a noise too soft or too far away to hear. The yellow caution light may be used as an example. Any kind of soundless motion that might illustrate that pulse may be used. Moving the hands rhythmically from closed fists to fully extended open fingers and back to closed fists is an example. The children may think of other soundless pulses and soundless motions to illustrate them.

3. Pulses Without Music:

   This activity helps the children to become conscious of pulses they can hear but which are not music such as footsteps, a ticking clock, a dripping faucet, a rocking chair, a smoke detector alarm, a person jumping rope, rowing a boat, etc.

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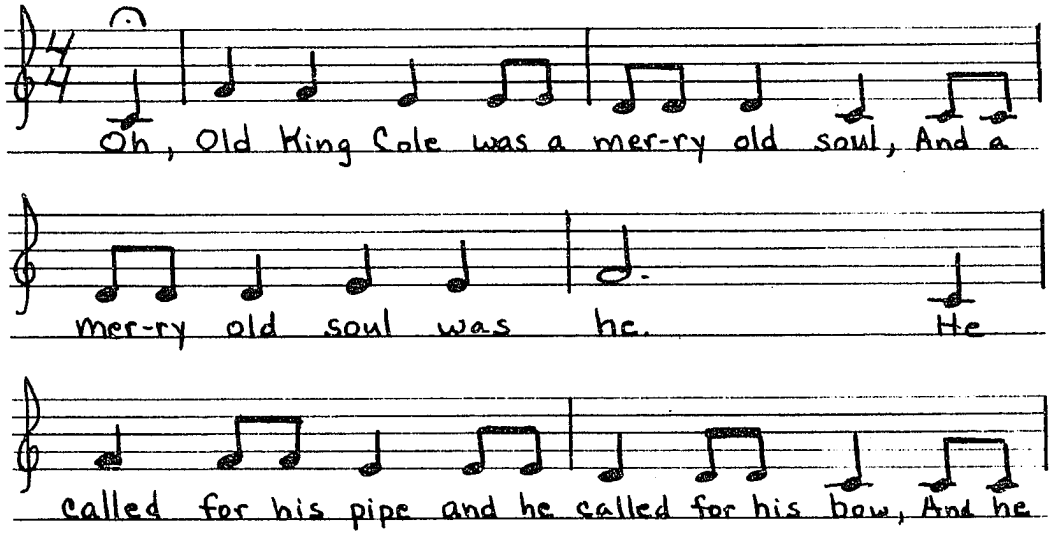
The adult mentions that there are things in our environment which have a pulse we can hear but which make no music. The adult demonstrates one of the above with the appropriate motions and sound effects and the children join in. As in the previous exercise the children will think up their own examples to illustrate.

In both of the above exercises the children will develop favorite ways to illustrate particular pulses. When this happens they may play a pantomine game in which an action (and sound, if appropriate) is done by one or several children and the others guess and then imitate what was done.

These exercises also may lead to the development of scenes. A street scene would be one of the more obvious examples. Different children decide on different parts and then all act out their part at the same time.

"By slightly adapting the song, 'Old King Cole', it may be used for imitating movements or objects children have observed."[4]



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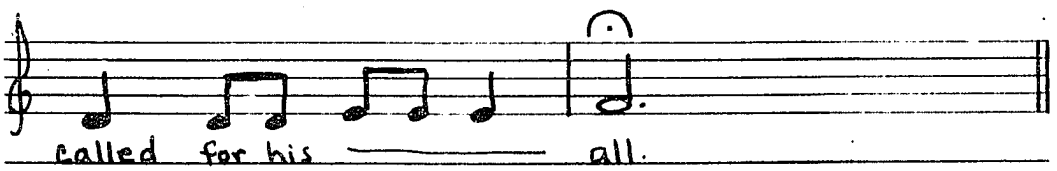

The adult plays and sings or simply sings the song as the children stand like statues. In place of the words, "He called for his fiddlers three", the adult substitutes something else, such as, "He called for his elephants all". The children then imitate an elephant. As soon as the song begins again on the word, "Oh", the children freeze, retaining the last pose they were in while imitating an elephant. The adult sings the whole song again and names a different member of the animal kingdom. The rule for the game is simple: the only thing the children may touch is the floor. This requires great conscious effort to avoid bumping other children or objects in the room. This is referred to in Montessori as a "motive for control". The song does not need to be confined to zoology. Examples of things to call out for different topics are:

Zoology	Musicians	Geometry
dog	harp players	line
cat	trumpet players	angle
fish	trombone players	triangle
bird	tympiani players	square
elephant		circle
chicken		sphere
horse		pyramid
butterfly		
inch worm		

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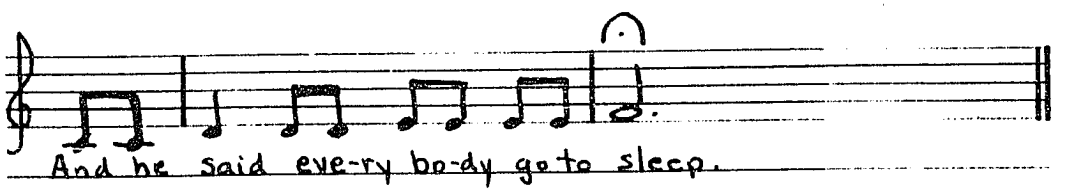
Classroom Activities	Botany
flower waterers	tree
floor scrubbers	bush
pink tower builders	strawberry plant
silver polishers	flower
fabric matchers	wheat

The possibilities are endless. The children may make suggestions of things to imitate. It is good to end the activity on a calm note such as:



This pleasurable activity gives the children an excellent opportunity to use the knowledge they have gained in other areas of their life in a new way, thus re-inforcing and deepening their knowledge.

Many things may lend themselves to interpretive movement. The dramatization of a seed growing into a flower was described in Chapter V. The season's effect on trees may be dramatized.[5] Some children could take the part of trees, others could be leaves. Simple directions could be given such as:

Spring - leaves come out on the trees

Summer - hot sun and thunder storms

Fall - leaves hang by a thread. The wind blows and the leaves float to the ground.

Winter - trees stand in cold wind and snow.

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The children may wish to orchestrate it with percussion instruments and other instruments in the room. This kind of activity may eventually lead into full scale musical dramas. American holidays and the holidays of others provide good themes.

Dramatization of emotions may be done in two ways. A piece of music may be played. The children listen and then dance freely in a way that interprets the feeling expressed by the music. Afterward, the children name the feeling they expressed if they are able. If they are not, the adult helps by supplying words. The opposite may be done by first selecting a feeling and then using movement to express it. The adult may provide appropriate music or the children may designate the piece which is to be played.

The "Game to Get a Quick Response"[6] involves giving the children a command and a limited amount of time in which to respond. For example one could say, "By the count of five stand shoulder to shoulder on the line". The leader counts to five as the children scurry to fulfill the direction. Other examples of direction could be:

-By the count of five, stand in a circle holding hands.
-By the count of eight, find a partner and sit on the floor with the bottoms of your feet touching.
-By the count of nine, make two lines and stand back to back.
-By the count of one, smile.

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The leader, of course, adjusts his or her counting so that it will finish shortly after the children have fulfilled the direction. This kind of activity aids the children in listening, following directions, paying attention, acting consciously and working as a team - all of which are necessary if they are to produce music together. Eventually, this kind of activity may be used to give the class directions such as, "By the count of ten, tiptoe to the door and make a line without touching anyone or anything."

Another movement game from Sanford Jones involves movement and counting on the line. The leader plays a drum and counts out loud at first to give the idea and then simply plays the drum. The children walk ten steps in one direction, pause for three counts, walk nine steps, pause for three counts, walk eight steps, pause, etc. Some variations could be:

-do the same running.
-clap three claps instead of pause.
-reverse direction on the claps.
-reverse direction on the claps only after the odd numbers.
-children count out loud and no drum is played.

"The Barrier and the Circle" is an exercise from Maccheroni.

> The children stand next to each other in a line. The two extremes hold the end of a beautifully colored ribbon. Everyone walks together in step so that a straight line is preserved as the barrier advances. To move from a line to a circle the line stops and everyone marches in place. The two extremes pull

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> forward and little by little the others follow without being pulled until the two ends meet and clasp hands. The circle moves around until the two extremes have returned to the spot when they met. Here they drop their hands and the circle transforms itself back into a line.[7]

Four kinds of accents may be experienced by the children. They are dynamic, tonic, agogic and metric accents. With four and five year old children an impression of the accents is given but not the name. Examples of things to act out to illustrate dynamic accents could be as follows:

1. Thunder. Children interpret while someone plays something to illustrate rain and then a sudden, loud noise to illustrate thunder. Sound effects could be provided by a piano or percussion band instruments.

2. Alarm clock. Everyone pretends to sleep, then suddenly an alarm goes off.

3. The song, "Pop Goes the Weasel", may be sung with everyone clapping loudly on the "pop".

4. Car horn. The children pretend to be driving along and someone blows a horn.

5. The children watch the leader play a drum. Whenever a loud sound is played, the children jump. The leader's exaggerated stroke before playing the loud sound enables the children to see when the jump is coming.

6. Handel's Surprise Symphony. The children may be told the story and then asked to listen for the surprise.

The tonic accent is an accent caused by higher pitch. To find it the children are asked to listen for the highest note in a song such as "Pumpkins Are Gay".

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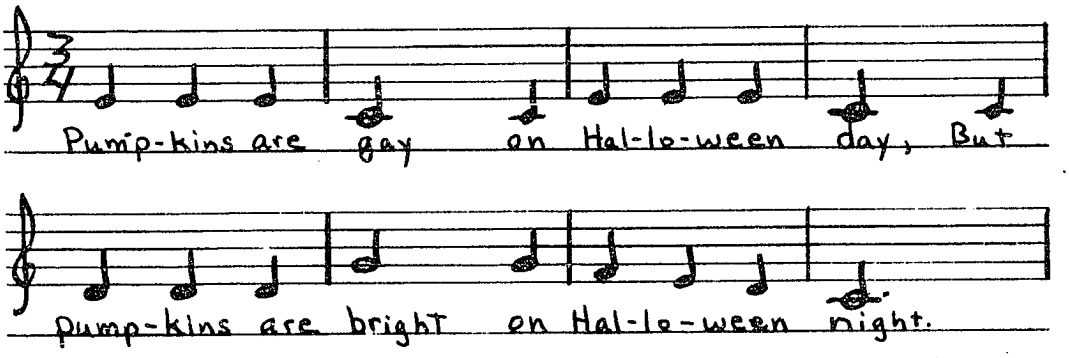
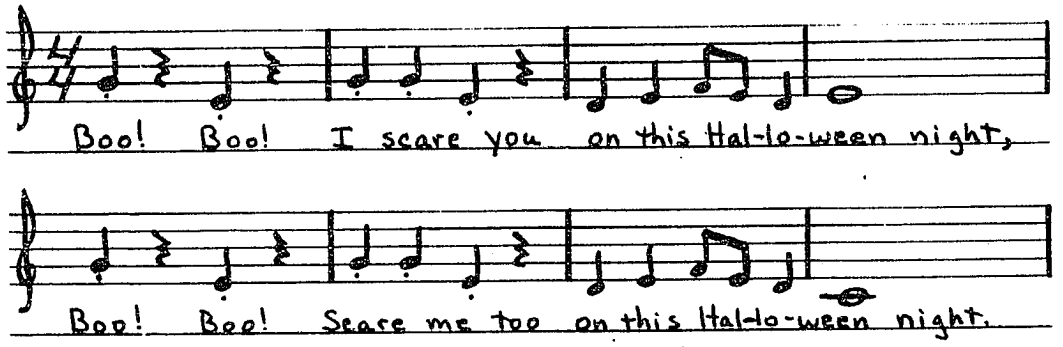


The exercise helps prepare for a study of melodic design which Maccheroni designed for elementary aged children. The opposite may also be emphasized by looking for the lowest note in a song such as, "Boo, Boo, I scare you".



An agogic accent results from the longer duration of a stressed note. Both long notes and short notes may be brought to the children's attention through the use of the following songs:

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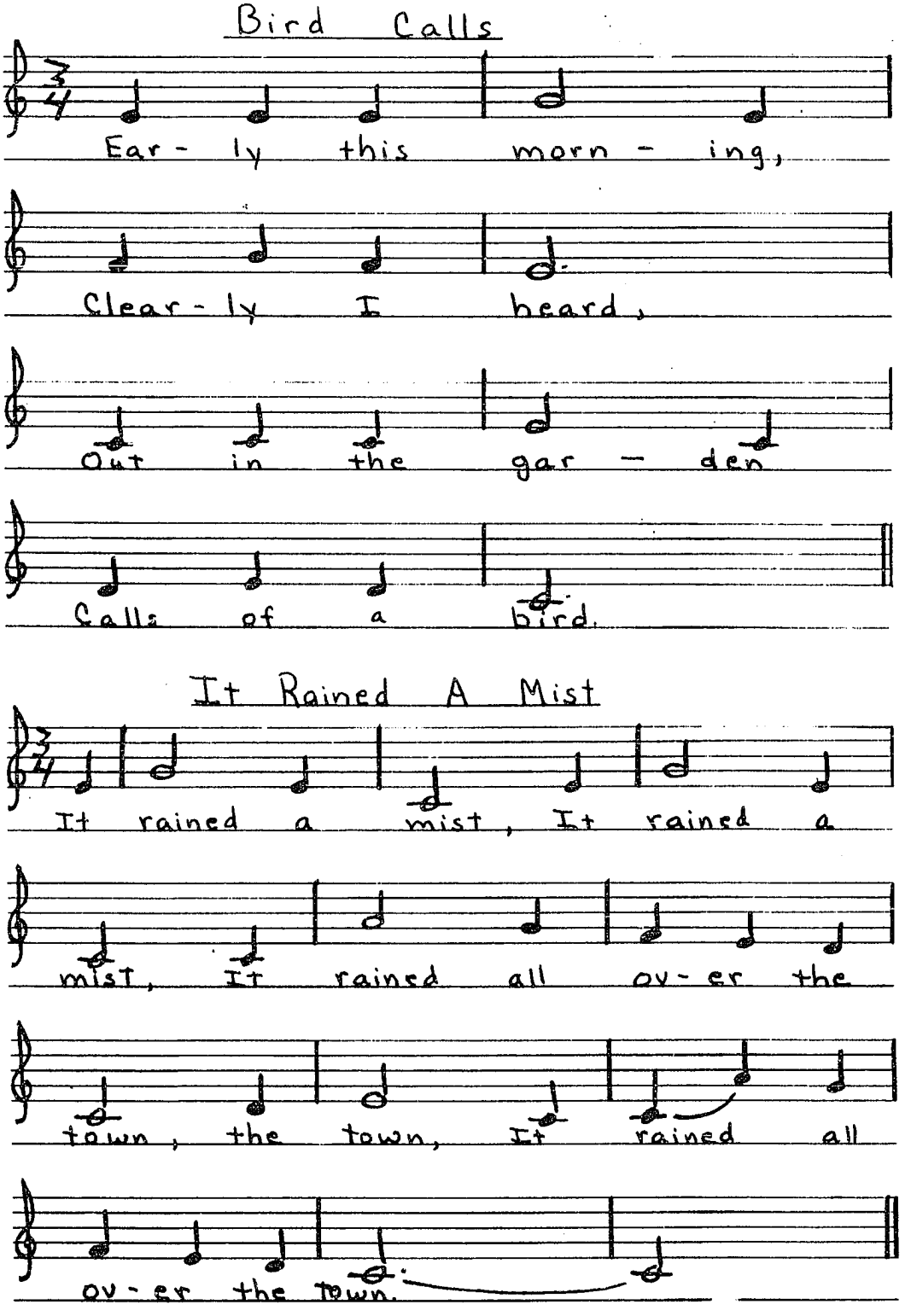
Bird Calls
Ear - ly this morn - ing,
Clear - ly I heard,
Out in the gar - den
Calls of a bird.
It Rained A Mist
It rained a mist, It rained a
mist, It rained all ov - er the
town, the town, It rained all
ov - er the town.

Note that the nouns and verbs are emphasized in "It Rained a Mist" by making them half or whole notes.

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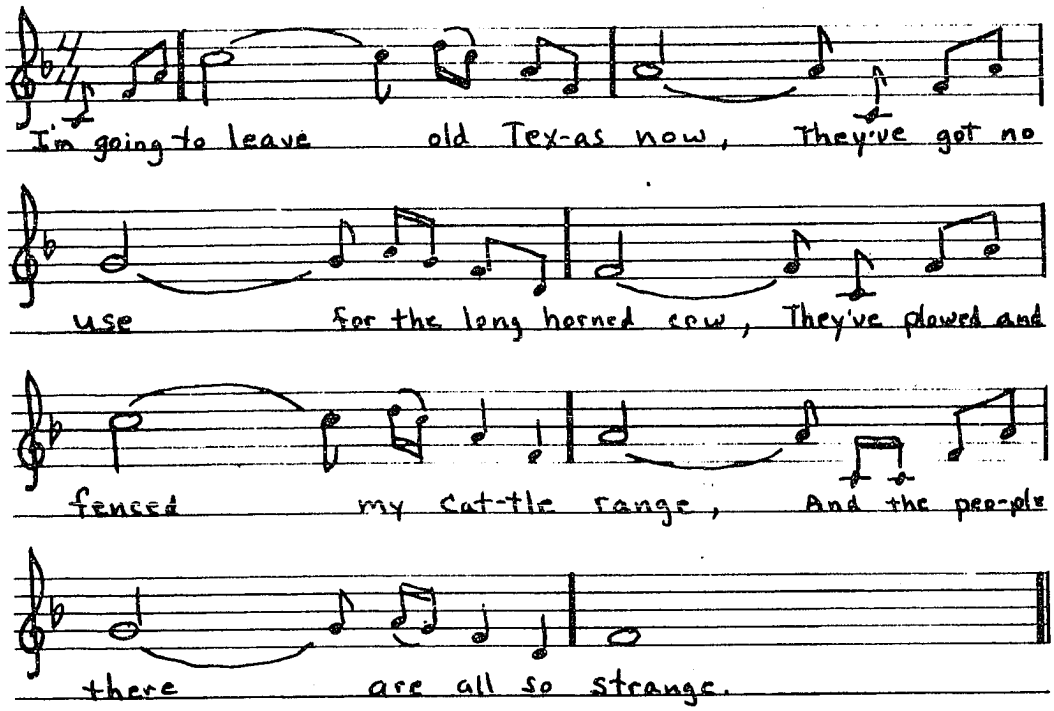
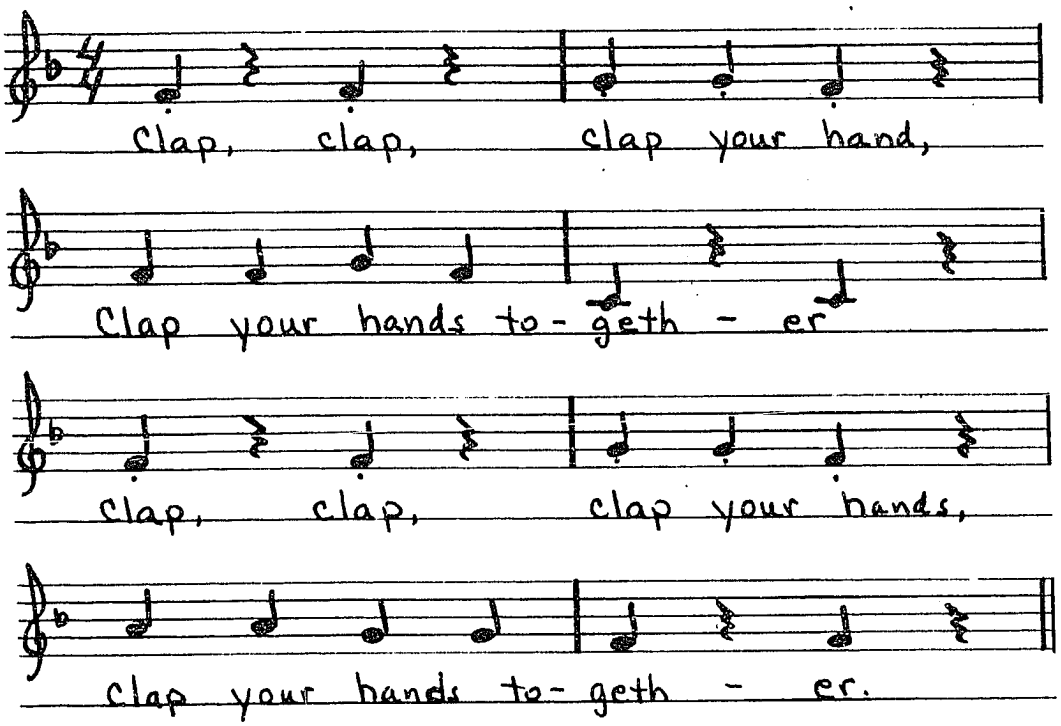
Old Texas


I'm going to leave old Tex-as now, They've got no
use for the long horned cow, They've plowed and
fenced my cat-tle range, And the peo-ple
there are all so strange.

Clap Your Hands



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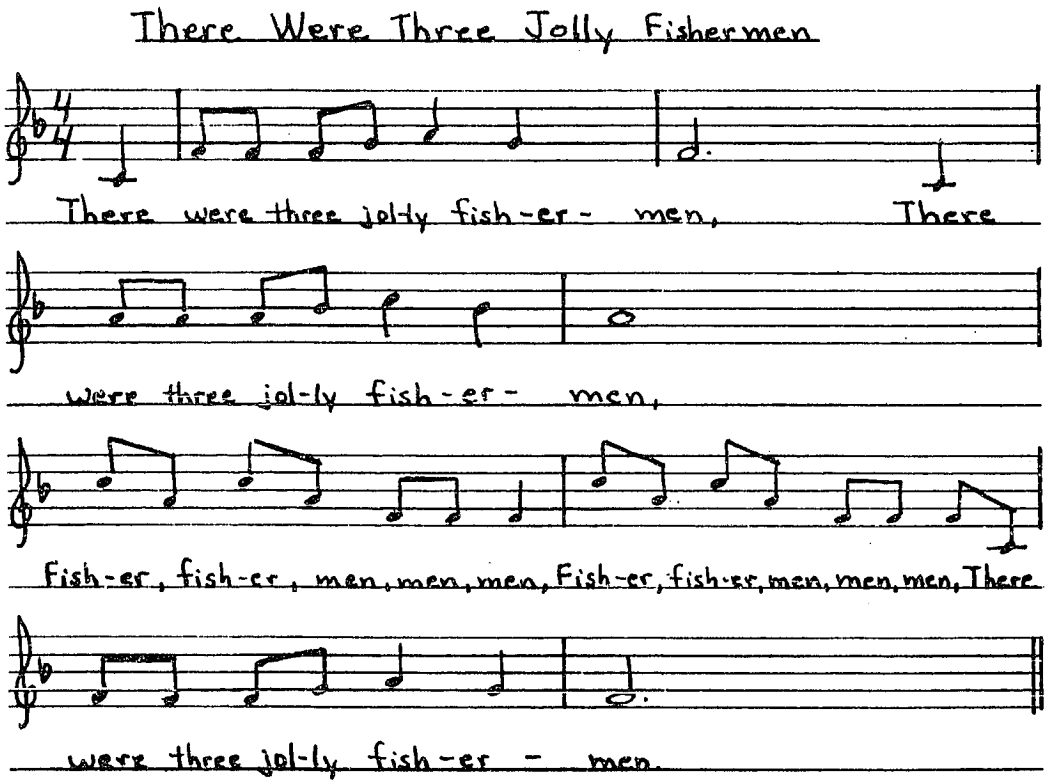
There Were Three Jolly Fishermen
There were three jol-ly fish-er- men, There
were three jol-ly fish-er- men,
Fish-er, fish-er, men, men, men, Fish-er, fish-er, men, men, men, There
were three jol-ly fish-er - men.

A metric accent is the recurrent feeling of weight that measures the flow of music. After the children have become familiar with the "Name Clapping Exercise" as described in Chapter 8, they may walk their names on the line, taking a step for each syllable.

These exercises help the children understand that there are different ways to emphasize musical ideas.

Giving an idea of contrasts in nature and movement is a good way to lead into an understanding of dynamics. The following activities were suggested by Sanford Jones.[8]

1. The adult tells a story about a rippling creek which freezes in the winter. The children imitate

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the water and the adult elaborates, ". . . here's a place where the water flows over some rocks. Now its starting to get very cold and the water is beginning to freeze. The edges of the stream freeze first and now the whole stream has turned to ice. After the long winter, the weather begins to get warmer. . . .".

2. The children may be told that it is July and they are ice cream cones made with very stiff ice cream taken from the bottom of a freezer. Then they are taken out into the sunshine and the ice cream begins to melt. It drips down the side of the cone and falls to the sidewalk with a plop.

3. Four to five children are directed to form a circle and pretend to be a pot of hot water. One child is the cook and the rest of the children are stiff pieces of spaghetti. The spaghetti is put into the pot one piece at a time where they slowly become softer.

4. The concepts, heavy and light, may be acted out to the accompaniment of a drum and a triangle. The children may act out the following:
   a. Floating like a balloon then sinking like a rock.
   b. Walking through deep snow then tiptoeing on thin ice.
   c. Walking through a mud puddle while wearing boots, then with good shoes.
   d. Heavy, wet clothes drying on a clothes line.

5. Strong versus gentle: The children may pretend:
   a. To be a big bell in a bell tower versus being the class bell.
   b. To push an adult in a swing versus pushing a baby in a swing.
   c. To call brother to supper at the other end of the yard versus singing a lullaby to a baby.
   d. To scrub a stubborn stain on the floor versus picking up a caterpiller.

These activities will help children see that inhibition of movement is required for gentle gestures while vigorous effort is used for the opposite kind of expression.

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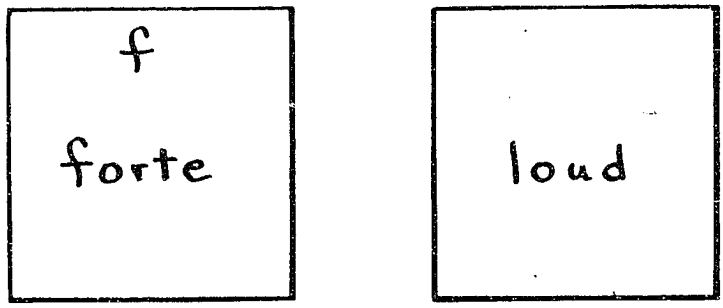
After children have had the physical experience of the changes, the changes may be related to music and the terms introduced. The musical activities may include singing, clapping, movement on the line, performing instruments and games. The adult may initiate a discussion about dynamic changes in music if the children do not bring up the topic. The adult tells the children that the words used in music to tell how loud or how soft something is to be performed are from Italy. The words and symbols are on cards which are kept in the environment after they have been introduced.



In the above illustration the symbol and the Italian word are on one side, the English translation is on the other. The appropriate word and symbol may be in view for the singing, percussion instrument, clapping and marching exercises.

One begins with the contrast, loud and soft, and later more dynamic distinctions are added. A game for loud and soft could be to have the children hide when the

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music is soft and to move around when the music is loud. For marching on the line, "When the teacher plays loudly the children walk raising their feet very high and swinging their arms; when the piano plays softly they walk with very tiny steps."[9] Crescendo and decrescendo are also shown. To act out this idea the children may make themselves very small and then grow as the music gets louder The process is reversed as the music gets softer.

Illustrations of crescendo in classical music may be shown in the following selections:

Grieg, "In the Hall of the Mountain King" from Peer Gynt.
Ravel, "Bolero".
Grofe, "Sunrise" from the Grand Canyon Suite.

The chart in Figure 55 may be available with the music materials in the classroom for those children who want to know all of the terms and symbols. The children may pick any of the symbols and look for examples in the music in the classroom.

Tempo, the relative speed at which a composition is to be played, is another aspect of musical expression which is offered to the children. A sensorial impression of tempo may be given while the children march on the line as each note of the scale is played four times. One step is taken for each note that is played.

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DYNAMICS

Symbols	Terms	Meaning
ff	fortissimo	very loud
f	forte	loud
mf	mezzo-forte	medium loud
mp	mezzo-piano	medium soft
p	piano	soft
pp	pianissimo	very soft
sf	sforzato	suddenly loud then soft
sfz	sforzando	suddenly loud then soft
fp	forte-piano	suddenly loud then soft
cresc.	crescendo	gradually louder
decresc.	decrescendo	gradually softer
dim.	diminuendo	gradually softer

Figure 55

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After the scale has been played slowly and the children have moved slowly, the card with the word, adagio, is shown and the children are told that means to play the piece slowly. The word, slow, is written on the reverse side of the card. After the scale has been played quickly, the card with allegro is shown, which means fast. The leader alternates the speeds as the children move on the line. The appropriate card is in view when its kind of music is being played. The tempo, andante, which is a walking tempo, may be added at another session. These three tempos and others may be used with singing, clapping and playing instruments.

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Gradually becoming slower or faster may be illustrated in several ways. A bouncing ball will bounce faster and faster as the height of its bounce gets closer and closer to the floor. The children may clap or jump as the ball bounces. This demonstrates accelerando. The children could also pretend to be accelerating cars. The ritardando may be illustrated by having the children pretend to be a moving object that slowly comes to a stop. Both accelerando and ritardando may be illustrated by a sled sliding down a hill and coming to a stop.

A chart with tempo markings (see Figure 56) may be available with the music materials in the classroom for those children who want to know all of the terms and symbols. The children may pick any of the symbols and look for examples in the music in the classroom.

Increase and decrease in dynamics and tempo may be shown together with the "Train Game". The children walk around the line in time to the music that is played to illustrate the following.

1. A train approaches from a distance, slows down and stops at the station. The music begins fast and soft and gradually becomes slower and louder.

2. A train leaves the station and gathers speed. The music begins loud and slow and gradually becomes faster and softer.

3. A train approaches from a distance and passes without stopping. The music goes from soft to loud to soft. It is played at a fast tempo the whole time.[10]

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TEMPO

Abbreviation	Terms	Meaning
	prestissimo	as fast as possible
	presto	very fast
	allegro	fast
	vivace	lively
	allegretto	light & cheerful
	moderato	moderate speed
	andante	walking speed
	adagio	slow
	lento	slow
	largo	broad and solemn
	larghissimo	very broad
rit.	ritenuto	holding back
rit., ritard.	ritardando	gradually slower
accel.	accelerando	gradually faster
	rubato	deliberately unsteady

Figure 56

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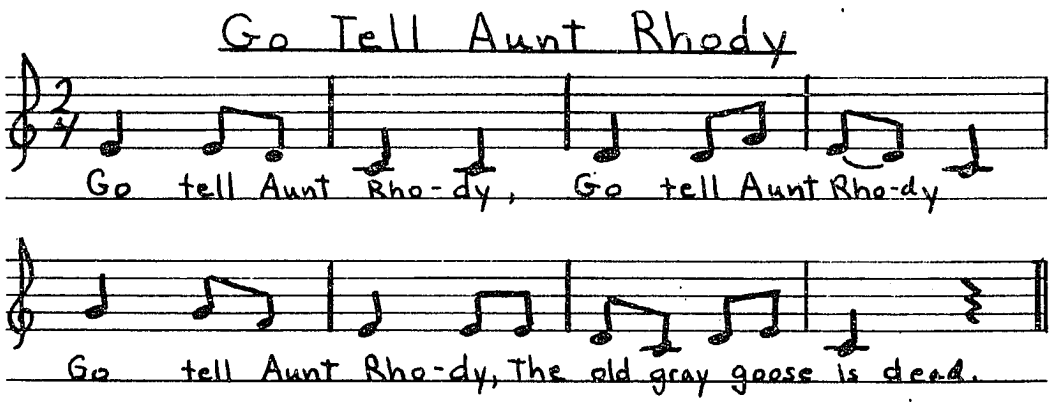
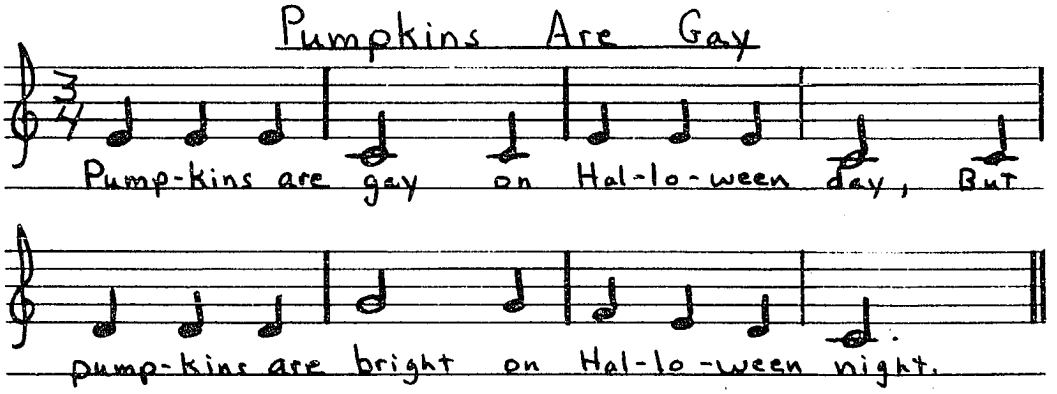
In addition to observing the adult conduct, various exercises and musical experiences prepare children for conducting. Movement on the line, tapping pulses in songs, playing percussion instruments on the first beat of a measure, and other exercises help children feel the flow of the music. Another useful exercise has the children swing to the rhythm of a song or piece. When this is introduced, already familiar music is used. The children move in an arc by bending forward at the waist and swinging to the right and left in time with the music. Their bodies should be relaxed. Good examples include:





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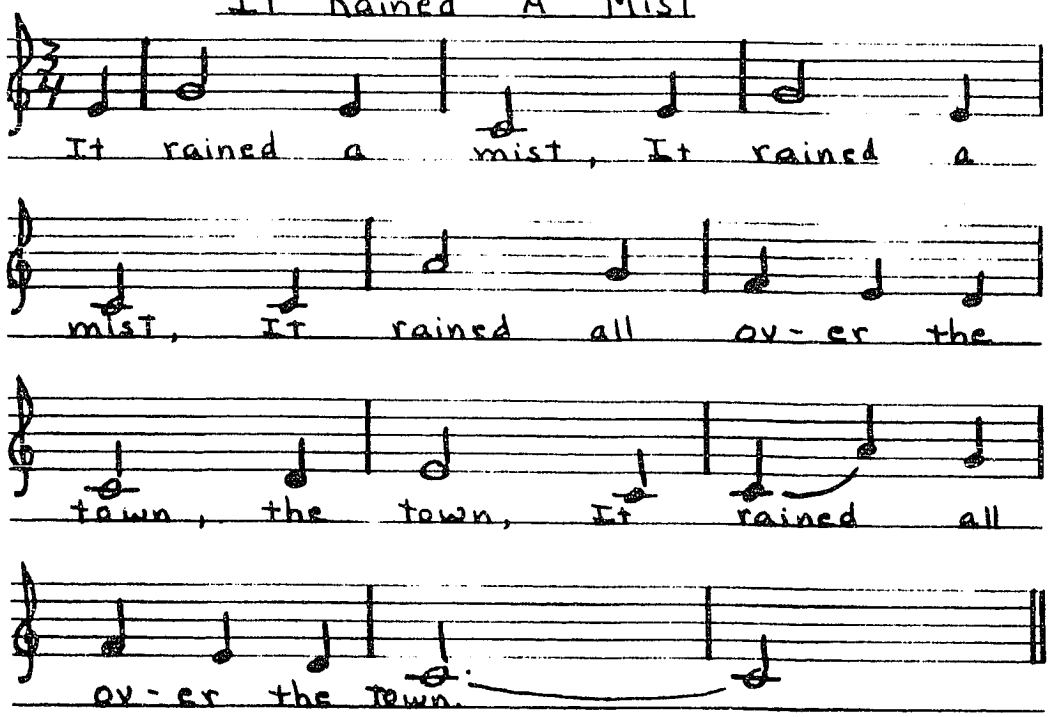
It Rained A Mist



Frere Jacques

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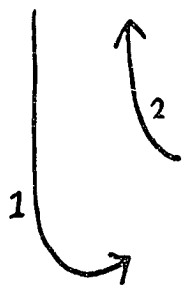
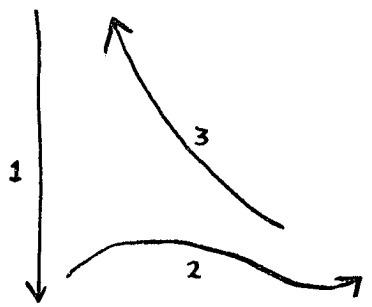
Notice that the above examples are in 2/4, 3/4 and 4/4 time. The strong beats will be felt in each of the time signatures. This exercise is a preparation for the introduction of time signatures as well as for conducting. After the song or piece has been swung, the conducting motion is shown to the children. In the first song, "Go Tell Aunt Rhody", the conducting pattern is down on the strong accent and up on the secondary accent. The down stroke hits the bottom of the swing on the beat and then swings out away from the body.



For "Pumpkins Are Gay" or "It Rained a Mist" the motion is in three - down, out (away from the body) and up.



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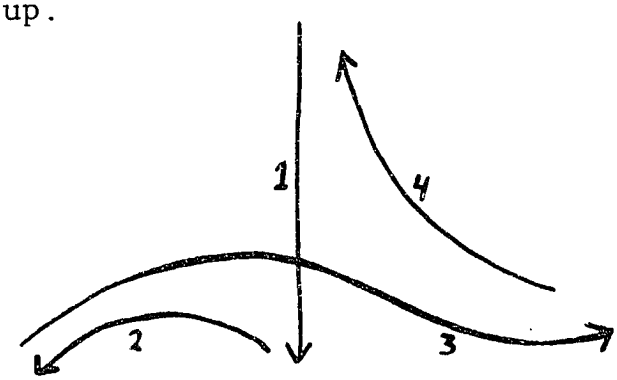
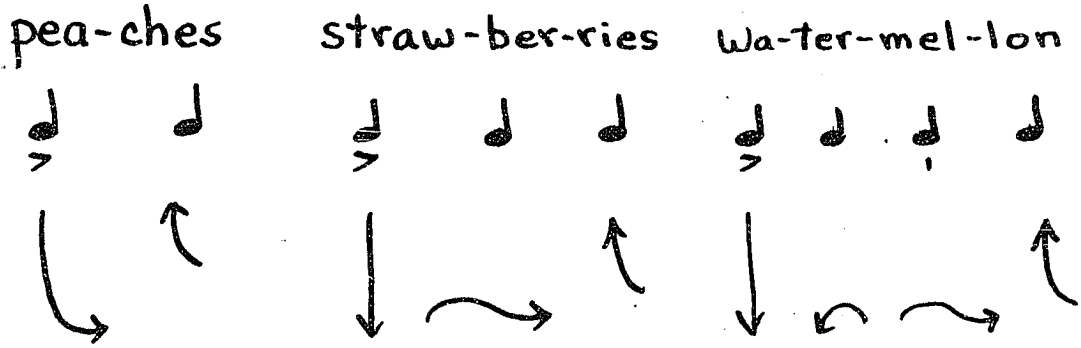
The conducting pattern for "Frere Jacques" requires four beats - down, in (across the body), out (away from the body) and up.



It may be helpful to associate words with conducting patterns. To do so, words are broken into syllables.



The children may come up with other words to conduct.

After the children have experienced a conducting pattern, the appropriate time signature may be shown. Written information about time signatures, as well as other musical markings, should be available for those children who would like more information.

A cadence is "a melodic or harmonic formula that occurs at the end of a composition, a section or a phrase, conveying the impression of a momentary or permanent

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conclusion.[11] Maccheroni wrote about cadence exercises which came from her experience with children:

> From the very beginning we have realized through our observations that children hear the middle cadence and final cadence. When I arrive at the middle cadence of one of the melodies they already know, I have them stop and then have them go ahead while I play the rest of the piece to the final cadence. I do this a few times and then tell them that instead of stopping they should make a turn and walk in the opposite direction. Once the children have grasped the idea they put it into practice in their own way. In one school the children would tiptoe away to hide themselves at the middle cadence. When the remainder of the piece was begun, they would all come back to walk on the line. In another school the children would kneel at the middle cadence in so exact a fashion that the knee lay on the line directly in line with both feet. They would remain immobile until the piece was begun again. Then they would get up and walk.[12]

Maccheroni's student, Vittoria Fresco-Galeazzi, gave the following directions and list of variations for the "Game of the Cadences" during the music lectures at the Centro Internazionale Studi Montessoriani in Bergamo, Italy in the spring of 1967.

> Game of the cadences - Each game is done in two parts; the first part (a) ends with a half cadence; the second part (b) ends with a final cadence. Repeat the same exercise many times. The change determines the two cadences.
> I - a) Walk in a circle (without holding hands);
> b) Turn and walk in the other direction.
> II - a) Walk forwards;
> b) Walk backwards (like crayfish).
> III - a) Walk;
> b) Stand still.
> IV - a) Walk;
> b) Walk in a circle holding hands.
> V - a) In a ring, go towards the left;
> b) idem, go to the right.

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VI - a) Walk in a ring;
b) Let go hands, turn around, take hold of hands again and continue.
VII - a) In a circle: walk slowly into the center, at the same time raising arms;
b) Do the contrary and return to the starting point. (This is suitable for slow and solemn music).
VIII- a) Walk in a circle without holding hands;
b) Everyone goes and hides.
IX - a) Walk in a circle;
b) Everyone walks freely in a different direction.
X - a) Walk in a circle;
b) Sit on the ground.
Many other variations can be found.

Montessori mentioned that different details of musical writing should be illustrated for the children.[13] Movement games offer an opportunity to do so. Legato and staccato may be acted out as opposites accompained by the appropriate music. Themes could be used such as ice skating for legato and walking barefoot on hot sand for staccato. Another means of introduction would be to have children feel pieces of velvet and rough burlap and relate them to legato and staccato respectively. When legato music is played children use smooth movements in free dancing. For staccato, short, quick movements are appropriate. Music should be provided by an instrument that can sustain long notes as well as play in a staccato manner. Later, if the children wish to orchestrate the music, they could choose the kinds of instruments to use for the different types of articulation. (The bells and

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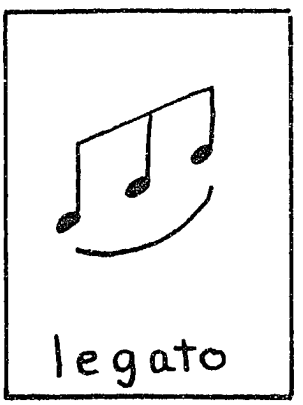
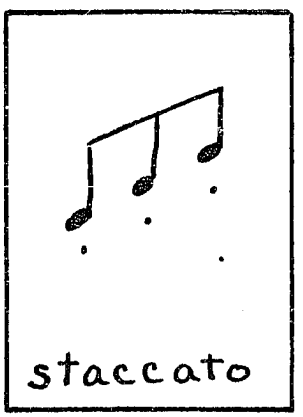
percussion instruments are suitable only for playing in a staccato manner.) Cards may be made which have the term and symbol on one side and the meaning on the other.



Smoothly connected notes without interruption



Short notes that are interrupted

If the children ask for more, other kinds of articulation could be introduced. A good list appears in The New Music Lover's Handbook.[14]

The fermata provides another delightful activity. Fermata means pause or hold. A card is made in the same manner as above. One person provides the music and the children do free dancing. One child has the fermata

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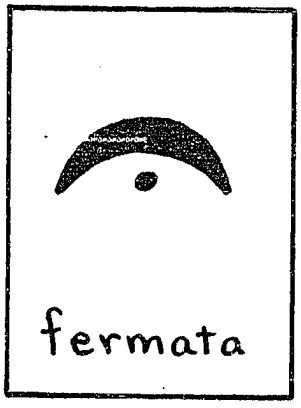
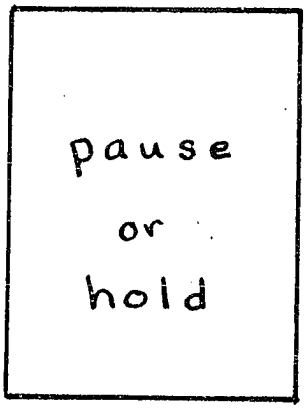
card:





When the card is held up, the dancers hold their positions and the person playing the musical instrument sustains the note being played. This could be coordinated with the cadence exercises mentioned earlier with the fermata being used at the end of a cadence.

Perhaps the most important thing to emphasize in summarizing this and the preceeding chapters is that children experience together and separately different aspects of music before any explanations are given. In the conclusion of her first booklet, Maccheroni wrote:

> The children feel and hear without having been given any "lessons". . . . To satisfy those who are pre-occupied with spoken teaching, we say that verbal expression comes later, as a second. To know how to say "middle cadence" or "primary beat" and not be able to feel or hear them is of no avail.
>
> In the Montessori method there are two periods: the knowledge and its verbal expression. In geometry, the children discover the theories, e.g., a square

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which is one half of another square. They discover the fact, they observe. Only later there follows the exact verbal expression. . . .[15]

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CHAPTER X - FOOTNOTES

[1]Vittoria Fresco-Galeazzi, "Course on Music Education", lecture at the Sixth International Training Course at the Centro Internazionale Studi Montessoriani, Bergamo, Italy, Spring 1967.

[2]Anna Maria Maccheroni, Camminiamo Con La Melodia (unpublished booklet No. 1, from AMI's private collection), pp. 17-18.

[3]Maccheroni, Camminiamo, pp. 18-19.

[4]Sanford Jones, music workshop sponsored by the Montessori Development Foundation, Cleveland Heights, Ohio, Summer 1972.

[5]Sanford Jones, music workshop, Summer 1972.

[6]Sanford Jones, music workshop, Summer 1972.

[7]Maccheroni, Camminiamo, pp. 18-19.

[8]Sanford Jones, music workshop, Summer 1972.

[9]Vittoria Fresco-Galeazzi, "Course on Music Education", handout accompanying lecture at the 11th International Training Course at the Centro Internazionale Studi Montessoriani, Bergamo, Italy, trans. Sr. Mary Aloyse Gerhardstein, R.S.M., January 24-27, 1972, p. 10.

[10]Fresco-Galeazzi, "Music Education", Spring 1967.

[11]Willi Apel, Harvard Dictionary of Music, (2nd ed.; Cambridge: Belknap Press of Harvard University Press, 1973), p. 118.

[12]Maccheroni, Camminiamo, p. 20.

[13]Maria Montessori, The Montessori Elementary Material, trans. by Arthur Livingston, (Cambridge: Robert Bentley, Inc., 1965), p. 360.

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[14]The New Music Lover's Handbook, ed. by Elie Siegmeister (Irvington-on-Hudson, New York: Harvey House, Inc., 1973), p. 79.

[15]Maccheroni, Camminiamo, p. 22.

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CHAPTER XI

THE MUSIC CURRICULUM IN PERSPECTIVE

The essential task of the young child is the creation and development of the self within a social and cultural context. This creative development of the child goes on primarily in the privacy of the inner self. The task of the adult is to set up an environment and social setting which will meet the developmental needs for self-creation of each person in that environment. This means that:

1. The physical environment must provide a safe, secure place in which to develop, as well as child sized furnishings and proven materials for the fulfillment of children's sensitive periods.
2. The social environment must provide a secure place in which to develop both as an individual and as a member of a social group.
3. The time environment must provide adequate time for development. Presentation of materials and/or concepts is merely the first step in what may be a very long journey for an individual child. Practice with the materials and/or concepts until mastery is achieved involves differing amounts of repetition for different children. This means there must be long, uninterrupted work periods so that the necessary repetition may occur. Each new mastery increases the child's feelings of competition and confidence and eagerness to grow and develop.

The freedom to repeat is part of a general freedom in the environment in which children may ask for a presen-

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tation of any material or activity, choose any material or activity for which they have had a presentation and use it in a positive, constructive manner and decide when, how often and how long to continue any activity.

Since music is a part of human expression, it has a rightful place in the on-going life of the class. The essential question concerning music which should be addressed by Montessorians is, "How can musical activities be a means of development for children, and thus assist them in their creative task of self-development?"[1]

In discussing the development of drawing, Montessori said,

> To confer the gift of drawing we must create an eye that sees, a hand that obeys, a soul that feels; and in this task the whole of life must cooperate. In this sense life itself is the only preparation for drawing.[2]

By substituting a few words one may put the statement into a musical context: "To confer the gift of musical expression we must create an ear that hears, a hand and body that obeys, a soul that feels; and in this task the whole of life must cooperate. In this sense life itself is the only preparation for musical expression."

The preparation of the ear is discussed in Chapter IV. The environment is prepared so that noise becomes a control of error, whenever possible materials and exercises are introduced in ways that emphasize listening and

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specific exercises for listening are included in the class. The sounds of different instruments are isolated as are individual pitches with the bells. As many aspects of musical experiences as possible are isolated in listening experiences in order to bring them to conscious levels.

The development of body control was discussed in Chapter VII. The environment is set up to provide children with a constant motor-development program through arrangement of furniture and shelves, and through the inclusion of attractive materials, some of which are breakable, which must be carried back and forth from shelves to work spaces. The materials themselves call for ever increasing degrees of muscular control as children naturally seek to perfect their movements. In order to provide the child with a vehicle for this movement toward self-perfection, it is important that the materials have a clear, useful purpose within the classroom setting. For example, knowing how to scrub a table is useful because the tables occasionally really need to be cleaned. On the other hand, using a pair of tweezers to pick up and place small beads on the raised suction cups of a soap holder has no observable purpose or application in the every day life of the class and, therefore, should not be included. Work with an intelligent purpose directs the

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activity and energy of the children toward ever increasing levels of mastery and muscular control.

Encouragement for a "soul that feels" is provided in an environment where children live and experience freely within ground rules that provide reasonable limits of behavior. The basic ground rule of the Montessori class - to support and protect each individual and the collective whole, or said in another way, that one cannot be destructive to oneself or interfere with the rights of others - supports the mutuality of becoming and belonging.

When children enter Montessori, somewhere between the ages of two and one-half to three, they are first introduced to the exercises of Practical Life. These exercises have a number of benefits besides practice in movement and coordination. They help children learn how to order their work in a specific physical space so that they have the possibility of getting through a given exercise successfully. Practice in ordering the steps of a simple, mechanical exercise into a logical sequence creates a habit of mind that serves as a tool in later academic and artistic endeavors. The use of materials that have both an intelligent aim and provide the kind of activity that will satisfy a sensitive period call forth concentration. The more opportunity children have to work with these kinds of materials without interruption, the deeper

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and longer their concentration becomes. This capacity for concentration is an important ingredient in any kind of artistic expression for the artist or musician must lose awareness of himself or herself and become totally absorbed in concentration on the experience at hand.

Practical Life exercises also help children develop independence by offering the means to gain skills in self-care and care of the environment. In addition, they offer practice in making choices. Intelligent choice making is a skill that can be developed. It is very different from the surface phenomena of curiosity for it is based on knowledge of the material (its purpose and how it is used) and of the inner satisfaction that comes with the use of the material. With the materials and time available to do work that is satisfying and the freedom to choose the work that meets ones needs for development, children are more able to stay in tune with their inner desire to grow and develop than when they must mindlessly follow a teacher with a time schedule from one activity to another.

When children have ears which are capable of hearing and hands and bodies that have attained a degree of control, plus they are in tune with their inner selves and have powers of concentration, then the background has been laid for the possibility of successful musical expression.

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The remaining necessary ingredient is musical knowledge based in enjoyable experiences. This knowledge is offered both in whole experiences and in parts; that is, music is analyzed into its individual components and each is offered in isolation. In this manner the various aspects of musical expression are brought to conscious levels where children can master them and then put them together in new, creative ways as a means, first, for their own self-expression and self-creation and, second, as a means to communicate with others. In this respect music is considered as another language. Montessori wrote:

> Such a child is in search of every possible means of expression, because no one language is rich enough to give expression to the gushing life within him. He speaks, he writes, he draws, he sings like a nightingale warbling in the springtime.[3]

Figure 1 in Chapter II shows the analogy between the development of language and music. This chart may serve as a rough guide to the sequence of music activities in a Montessori setting.

The chart in Figure 57 gives another view of the music curriculum. This chart differentiates between the activities of the children and the directed activities and presentations of the adult. The purpose of the presentations are to give children the means for their own spontaneous exploration, appreciation, composition and reading of music. The presentations and activities are sometimes

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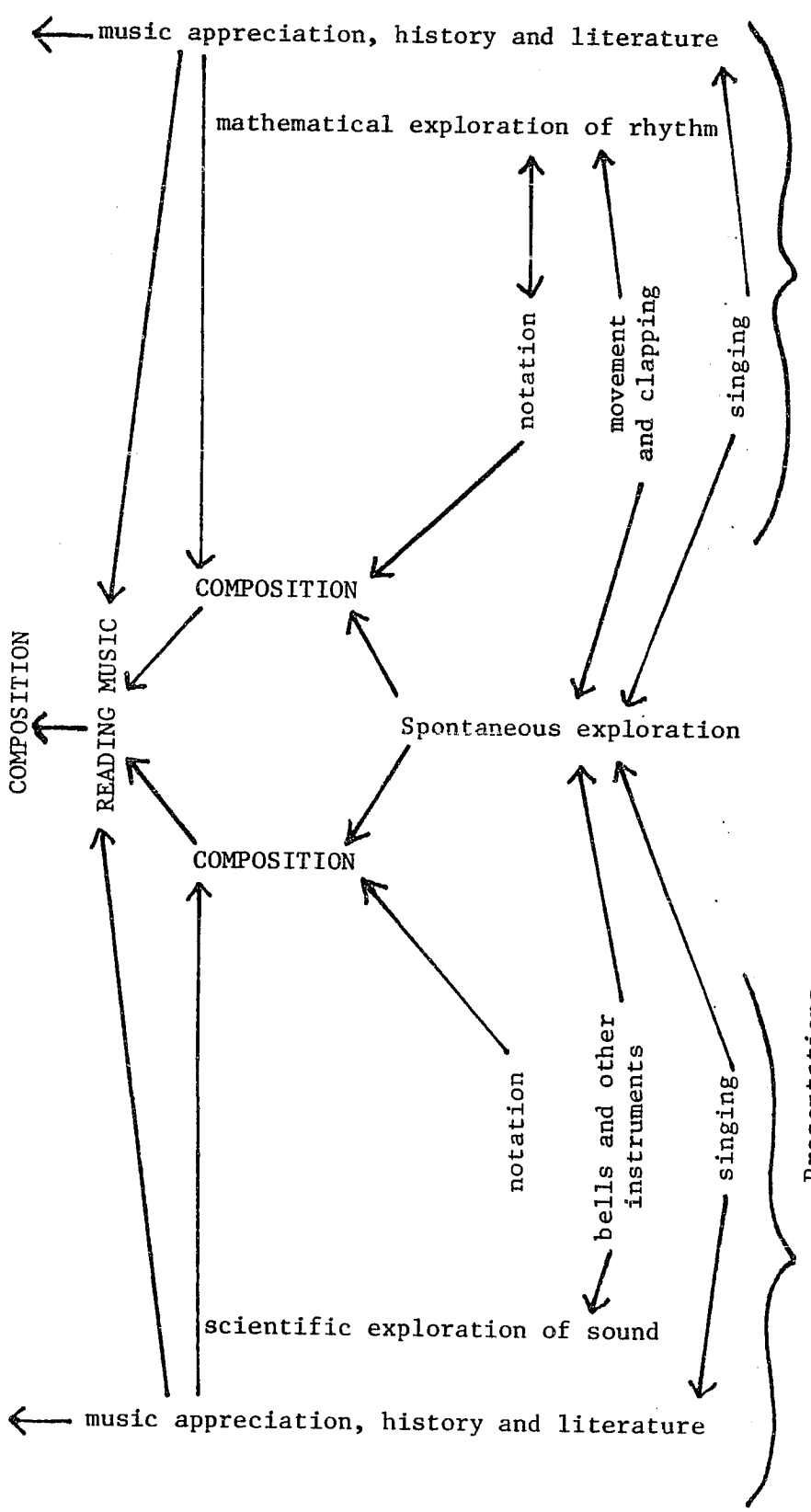

Figure 57. Chart of Presentations and Children's Activities

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for individuals, sometimes for small groups and sometimes for everyone who wishes to participate.

The adult very carefully and consciously helps the children assume the attitude of composers. This is done in several ways. First, the adult acts as a model by composing melodies, making up rhythms, making up words for songs, etc. The adult also provides materials and activities which offer children the possibility for creative activity in different areas of musical experience. For example, with regard to singing, if words are always given for each and every song that is used in the class, then it will generally not occur to the children that they can make up their own words to go with the songs. Using the following outline of activities (described in Chapters III through XI) could lead to composition on the part of the children.

I. Words
   - A. Songs in which the adult adapts some of the words to the children themselves (e.g., "Mary Wore Her Red Dress" - see Appendix I).
   - B. Songs in which words are suggested by the children. (e.g., "I've Lost the Closet Key" - see Appendix I).
   - C. Singing with the scale.
   - D. Children make up words for scale songs.
   - E. Children write poems (not found in text).
   - F. Children write words to go with a melody. (e.g., "French Tune" - see Appendix I).

II. Music
   - A. Pitch (Melody)
     1. Singing
        - a) Regular (all sing together)
        - b) Antiphonal
        - c) Rounds

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2. Imitating on bells or piano
   a) Things in nature
   b) Things in child's world
3. Playing the bells by ear
   a) At random
   b) Extemporaneously
   c) Known melodies
4. Naming the pitches
5. Familiarization with the musical staff and pitch notation
6. Composition with the discs and boards
7. The study of melodic design
   a) Finding the highest (or lowest) note in a piece
   b) Scale songs
   c) Finding notes that stay the same
   d) The Broken Scale exercises
   e) Exercises with the 17 white charts
   f) Naming intervals
8. The study of cadence and musical form

B. Rhythm
1. Sensorial Experience
   a) Clapping
      (1) Names
      (2) Chants
      (3) Four beat measure pattern
   b) Percussion Band Instruments
      (1) Introduction of instruments
      (2) Conversations
      (3) Dramatizations
      (4) Echos
      (5) Dramas
      (6) The full band-categorized into loud and soft instruments
      (7) Ostinato with improvisation
      (8) Musical form
2. Notation of the clapping exercises
3. Dictation
   a) Seeing two patterns and choosing the one that was performed
   b) Seeing more patterns and choosing
   c) Hearing only, then writing
4. Reading and clapping
5. Make up own rhythms
6. Notate own rhythms

C. Timbre
1. Percussion Band Instruments
2. Study of different instruments and their tone qualities

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3. Scientific study of sounds
4. Playing different instruments

D. Other aspects
1. Accents
2. Dynamics
3. Tempo
4. Conducting

III. Actions
A. Songs for which actions may be created by the children.
B. Imitations (e.g., with the song, "Old King Cole")
C. Free dancing in response to music

IV. Combination of Melody and Words
A. Compose melody to go with known poetry
B. Make up words to go with known melody
C. Make up words and compose melody

V. Combination of Rhythm and Words
A. Take names or chants and clap them
B. Make up chants or names to go with rhythm patterns

VI. Combination of Melody, Rhythm and Words - all notated. This will rarely be seen below the age of six.

With gradual build up of knowledge, and skill based in experience, children gain confidence in using music as a form of expression. Initially their conscious expression will concentrate in one area at a time, such as melodic composition or rhythmic composition. Later, combination of two or more areas will appear.

All these aspects of the music curriculum (singing, listening, including music literature and history and the study of musical instruments, ear training and theory with the bells, movement, rhythm, playing musical instruments) proceed in parallel fashion in the life of the class.

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This is represented in the flow chart of musical activities in Figure 58. The flow chart reads from the top down.

The implementation of music is, ideally, carried out by an adult who is in the Montessori environment every day all the time the children are there. Within the Montessori environment music should be an integral part of the totally integrated curriculum. As part of the life of the class, music should emerge as an individual, small group or large group activity anytime that an appropriate moment arises. It is not to be relegated to a set time or place. It may be initiated by any class member - child or adult. If a special teacher comes to give music, then the children may easily get the idea that music is something that is set apart from the regular life of the class and it will be less likely that spontaneous musical events will occur.

In music, as in other parts of Montessori (mathematics geography, language, etc.) the adult in charge needs to know the entire curriculum and how the various parts of the curriculum interrelate in order to be really free to respond to the need of any child with the appropriate materials and/or exercise. This is one of the most important roles of the adult - to put the children in touch with the materials and exercises in the environment that are appropriate to their needs and interests at any

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L I S T E N I N G

sound cylinders

mystery sound games

silence exercises

M O V E M E N T

FOR CONTROL

walking on the line

INSTRUMENTS OF THE ORCHESTRA

contrasting instruments

instrument families

scientific exploration of sound

written description

MUSIC APPRECIATION

music from widely contrasting periods

music from same periods

movement in time with rhythmic notation

FOR EXPRESSION

walking

marching

running

galloping

skipping

games

notation for above movements

variations on marching

sedate walk

notation of sedate walk

ACTING OUT

real things in nature

accents

dynamics

tempo markings

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R H Y T H M

introduction to clapping
clapping names

word rhythms in chants

pulse of song

4 beat measure patterns
strong beats

notation of the above

note patterns- which one did I clap?

S I N G I N G

simple songs

scales

vocal exercises

greetings

etc.

songs which give children the experience of making up words

PERCUSSION INSTRUMENTS

sticks

triangles

jingle bells

tambourine

drum

maracas

etc.

games for pairing

conversations

echo game

MELODIC DESIGN

highest note in a piece

how music gets from high to low and low to high

notes that stay the same

CONDUCTING

swing to the songs

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B E L L S

how to strike and carry

pairing

up and down the scale

high and low

pairing

pitch names

memory I

games for pairing

memory II

grading

memory I

games

memory II

whole steps-half steps

tetrachord impression

C O M P O S I T I O N

playing extemporaneously

piano for expression of ideas
- clusters of notes
- arms
- fists
- animal imitations

bells for expression of ideas

melodies by ear

notating melodies

CARD MATERIAL

individual notes

pairing

grading

descriptions

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scienti

nature

notation for above movements

variations on marching

accents

music from same periods

dynamics

sedate walk

written description

notation of sedate walk

tempo markings

movement in time with rhythmic notation

articulation

dramas

music of same composers

cadences

history

whole orchestra layout

notati
abov

note p
whic
I cl

clap a

rests

dictat

bar li

measur

time s

Figu

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maracas

etc.

games for pairing

notes that stay the same

CONDUCTING

swing to the songs

notation of the above

conversations

echo game

note patterns- which one did I clap?

dramatizations

clap and notate

rests

full band dynamics ABA form, etc.

repetition and contrast ABA ABBA ABACA etc.

conduct the songs

dictation

time signatures

bar lines

measures

time signatures

ostinato and improvisation

naming intervals

naming degrees of the scale

Figure 58. Flow chart of musical activities for children ages two and one half to six.

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whole steps-half steps

tetrachord impression

TING

melodies by ear

to the songs

CARD MATERIAL

individual notes

pairing

grading

descriptions

notating melodies

groups of notes

2 notes

dictation

3 note patterns

notating rhythms

ict the
ngs

Broken Scale

signatures

bass clef

white boards

key signatures

simple songs

transposition of
simple songs

notation of melody
and rhythm
together

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given moment. This is possible only if the adult has mastered the curriculum and has understood the purpose of the materials. The materials are not teaching devices whose purpose is to teach particular intellectual skills and concepts to children. Nor do they constitute a rigid music program through which children are to be led. They are, instead, developmental materials which aid children in the development of themselves.

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CHAPTER XI - FOOTNOTES

[1]Tilli Sullivan, "Creativity: Its Role in Development", The N.A.M.T.A. Quarterly, Vol. III, No. 2, (Winter 1978), p. 27.

[2]Maria Montessori, The Montessori Elementary Material, trans. by Arthur Livingston, (Cambridge: Robert Bentley, Inc., 1965), p. 309.

[3]Maria Montessori, Elementary Material, p. 312.

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CHAPTER XII

CONCLUSION

The intent of this dissertation has been to make a "state of the art" statement on Montessori music for two and one-half to six year olds as it exists today in the body of Montessori theory. Since Montessori training is carried on in an oral tradition, up to now no definitive written statement of Montessori music has been available. Students in training courses conducted by the Association Montessori Internationale have received a good portion of this information. Other Montessori training courses have not had access to the bulk of this information.

Although seeing the music materials and exercises demonstrated, observing children engaged in music activities in Montessori classes, practicing the music activities and then writing one's own teaching manual is a far superior method of taking in and making the information one's own, all too few people have the time, resources and energy available for such training. This dissertation will provide many teachers and/or musicians with information that will help them design and implement Montessori

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music in their classrooms or private studios. Even though Montessori music is designed in response to ongoing life in a Montessori classroom situation, many aspects may be used in private lessons or small classes or nursery schools and traditional classrooms. This dissertation should be helpful both to Montessorians who wish to implement Montessori in all its fullness and to non-Montessori teachers who wish to incorporate aspects of Montessori into their teaching styles.

This dissertation has dealt only with Montessori music for children up to the age of six. There still remains to be organized and written the music activities that Maccheroni described for the six to twelve age range.

Since Montessori is not a static method, the description of the music program in this dissertation will be refined, changed and added to or deleted as creative Montessorians incorporate this music into their classrooms and they observe what works well, and what doesn't work well. They and the children will come up with new ideas of their own.

One note of caution should be stated here. It may be that use of this music curriculum in real Montessori settings may show that there are entirely too many materials included for the study of musical notation. As time has gone on in the Montessori movement, it has become very clear that there is an optimum amount of material to pro-

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provide. When too many materials are provided there are two clearly observable results:

1. The length of time the children are able to concentrate is greatly diminished, perhaps from the visual over-stimulation that occurs when a classroom looks like a supermarket.
2. The joy of figuring out something for oneself is lost when everything is worked out and prepared in advance by someone else. The result is less enthusiasm for the work.

On the other hand, when not enough material is provided, the children are left without the necessary base of information which enables them to "take off" on their own. That all the materials and exercises in this dissertation work with children is not the question. It has been proven that they do. The question is whether or not these materials and exercises are all necessary. One very important thing to keep in mind that Dr. Montessori said frequently is that any unnecessary help is a hindrance. An excellent way to improve upon this curriculum would be to follow this procedure:

1. Identify Montessorians who have had both adequate Montessori training and successful classroom experience.
2. Give those Montessorians special training in the music program described in this dissertation.
3. Have those Montessorians implement the music as they work fulltime in the classrooms in different kinds of settings - suburban, inner city, rural, private, public - and in different cultures.
4. Have them keep a log of the music activities in their classrooms and write reports.
5. Send Montessori music consultants to those classes to observe and assist. They would also make reports.

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6. Have all involved meet together periodically to discuss and evaluate their experiences.

What happens with children in different cultures and in different settings is the only true test of the validity of the information in this dissertation.

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Washington Montessori Institute. 2119 "S" Street, Washington, D.C. 20008

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APPENDIXES

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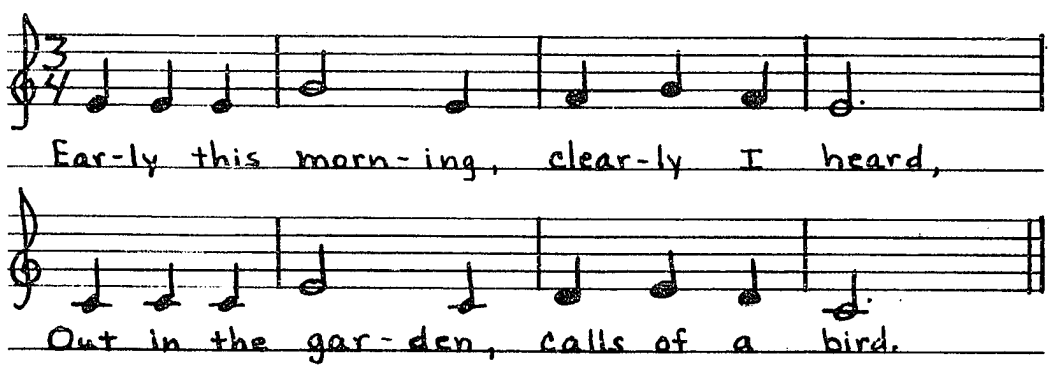
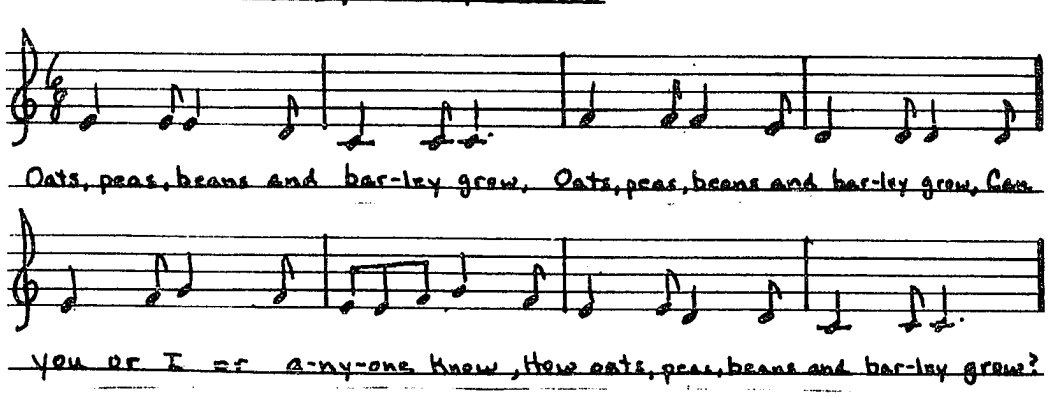
APPENDIX I

Examples of simple songs for young children. All of the songs may be played on the bells. Most of the songs are in the key of C.

Bird Calls



Oats, Peas, Beans


Oats, peas, beans and bar-ley grow, Oats, peas, beans and bar-ley grow, Can
you or I or a-ny-one know, How oats, peas, beans and bar-ley grow?

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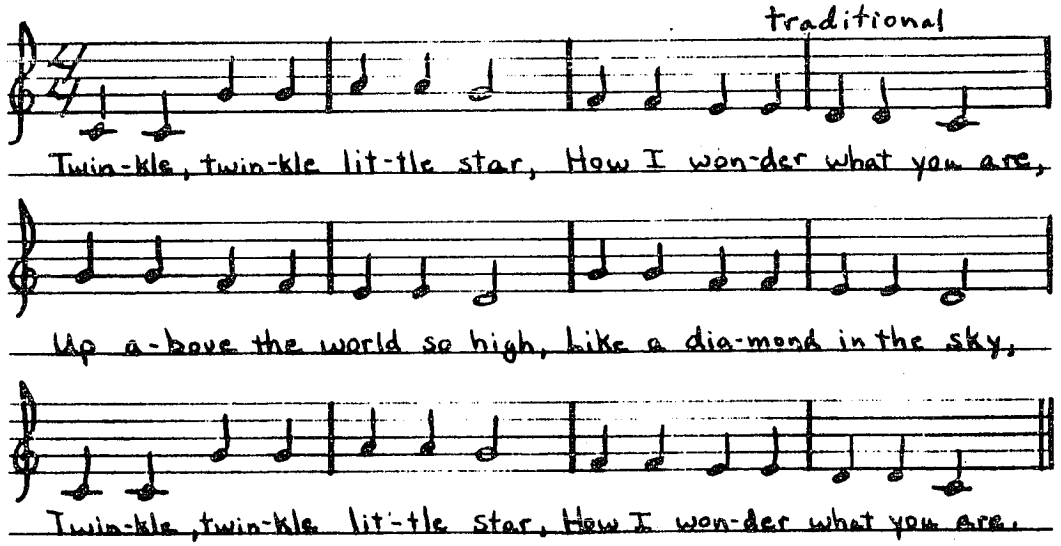
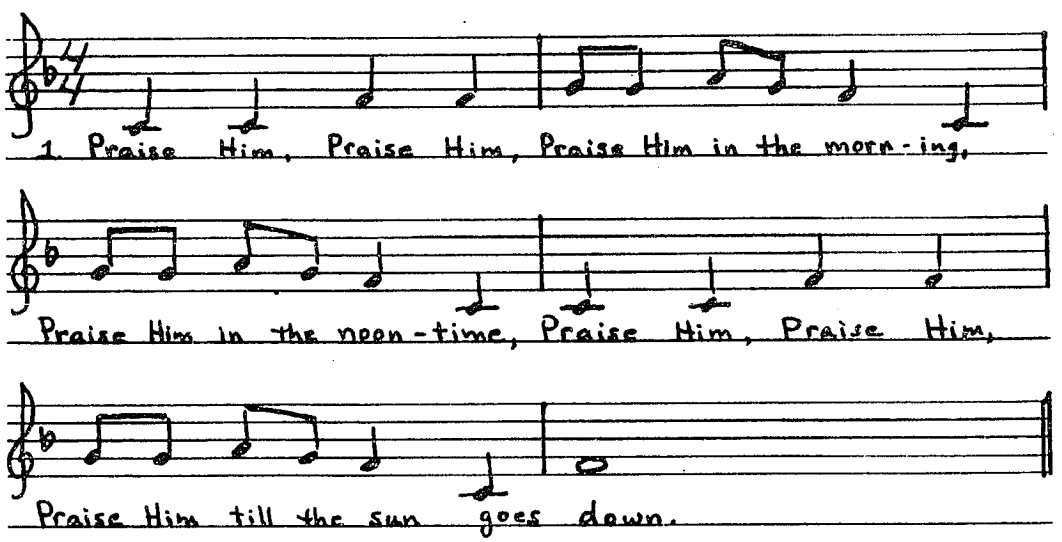
Twinkle, Twinkle Little Star

traditional


Twin-kle, twin-kle lit-tle star, How I won-der what you are,
Up a-bove the world so high, like a dia-mond in the sky,
Twin-kle, twin-kle lit-tle star, How I won-der what you are.

Praise Him


1. Praise Him, Praise Him, Praise Him in the morn-ing,
Praise Him in the noon-time, Praise Him, Praise Him,
Praise Him till the sun goes down.

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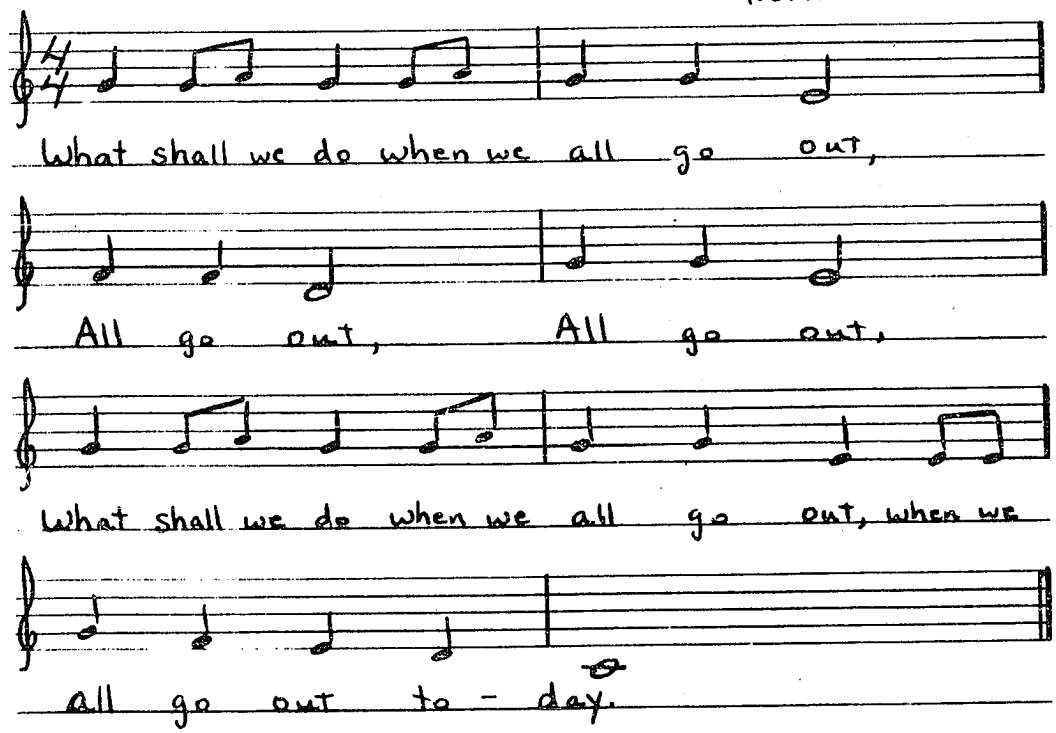
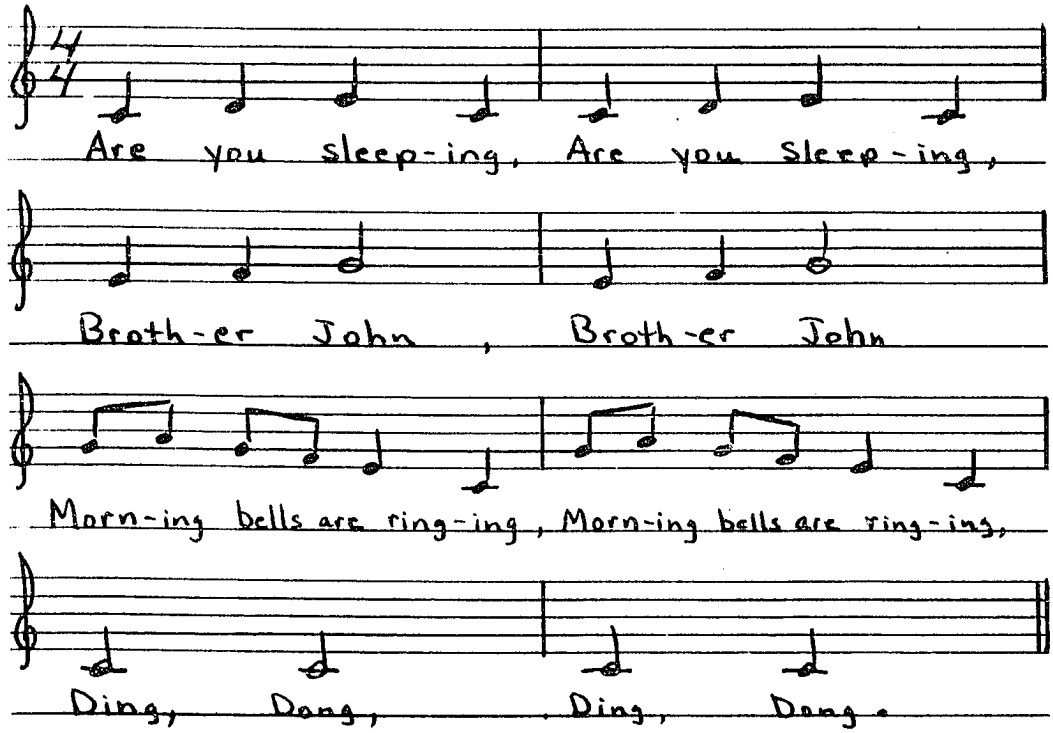
What Shall We Do When We All Go Out?

North Carolina



Are You Sleeping


Are you sleep-ing, Are you sleep-ing,
Broth-er John, Broth-er John
Morn-ing bells are ring-ing, Morn-ing bells are ring-ing,
Ding, Dong, Ding, Dong.

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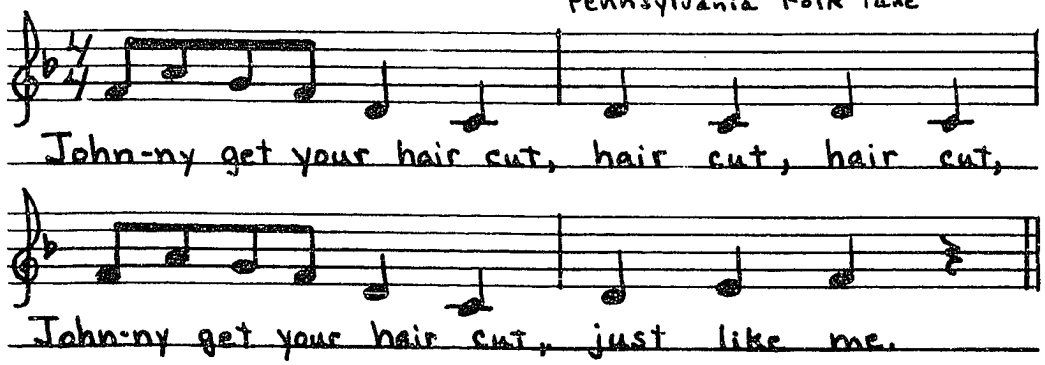
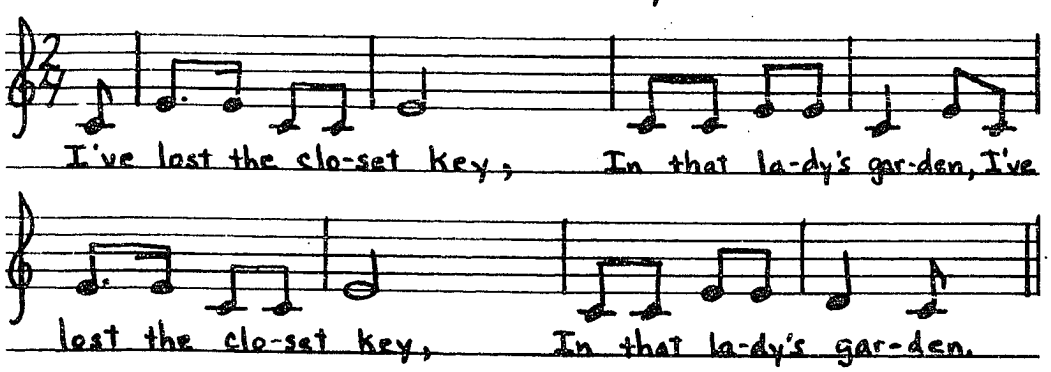
Johnny, Get Your Hair Cut

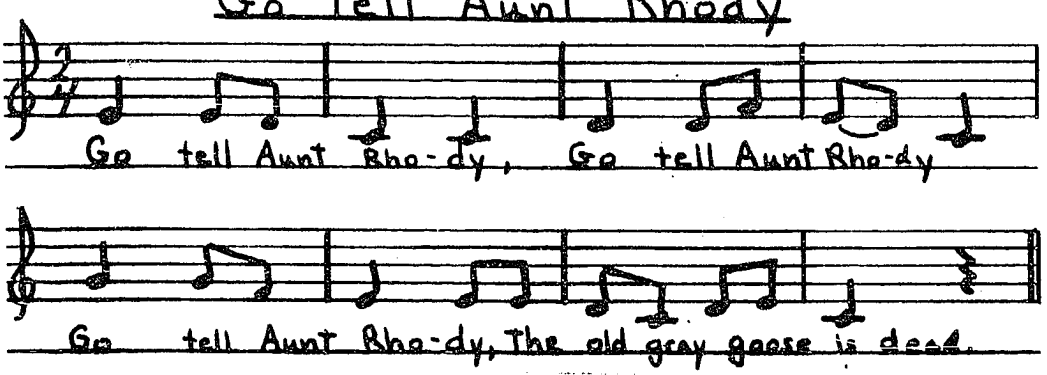
Pennsylvania Folk Tune



The Closet Key



Go Tell Aunt Rhody



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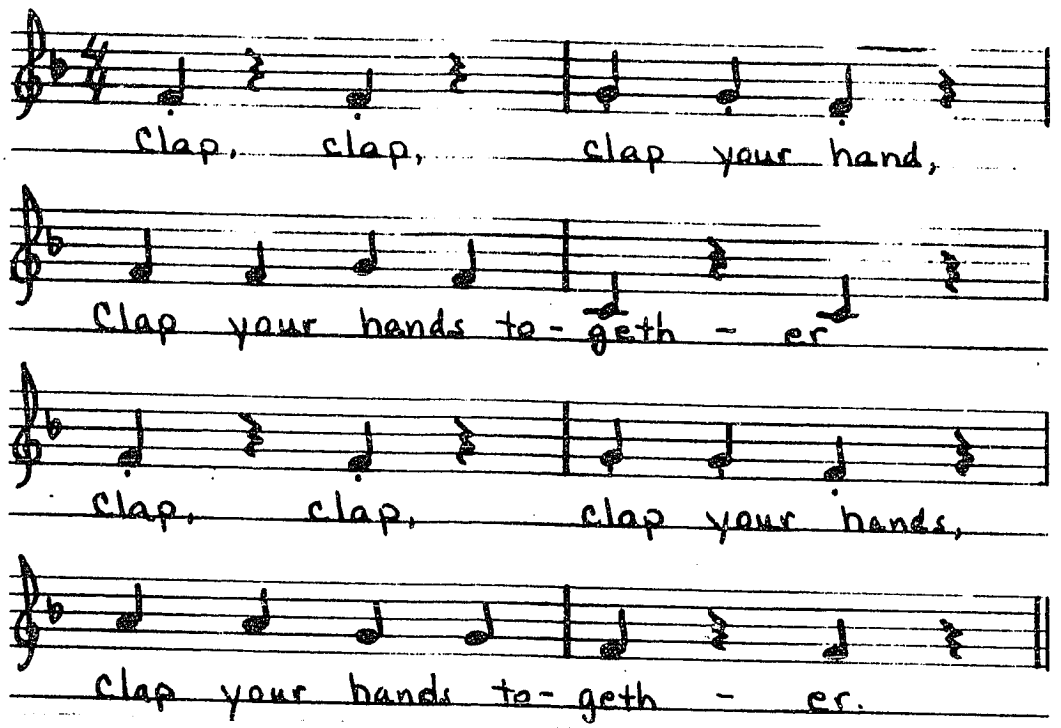
Clap Your Hands



Bird Calls

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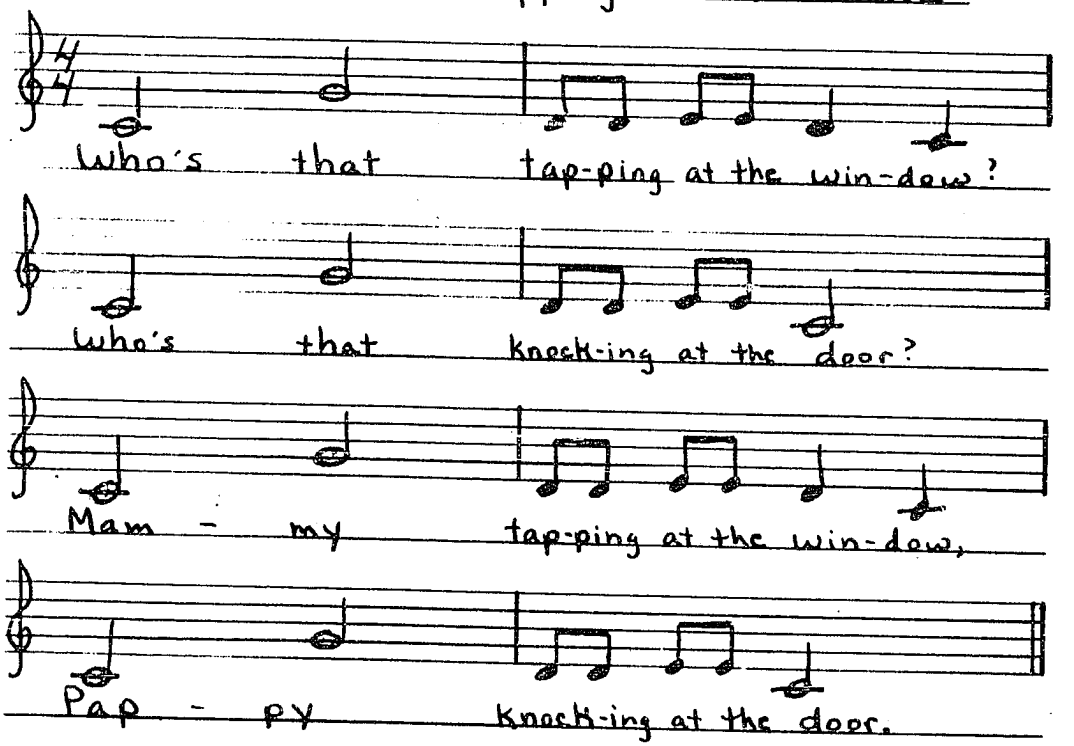
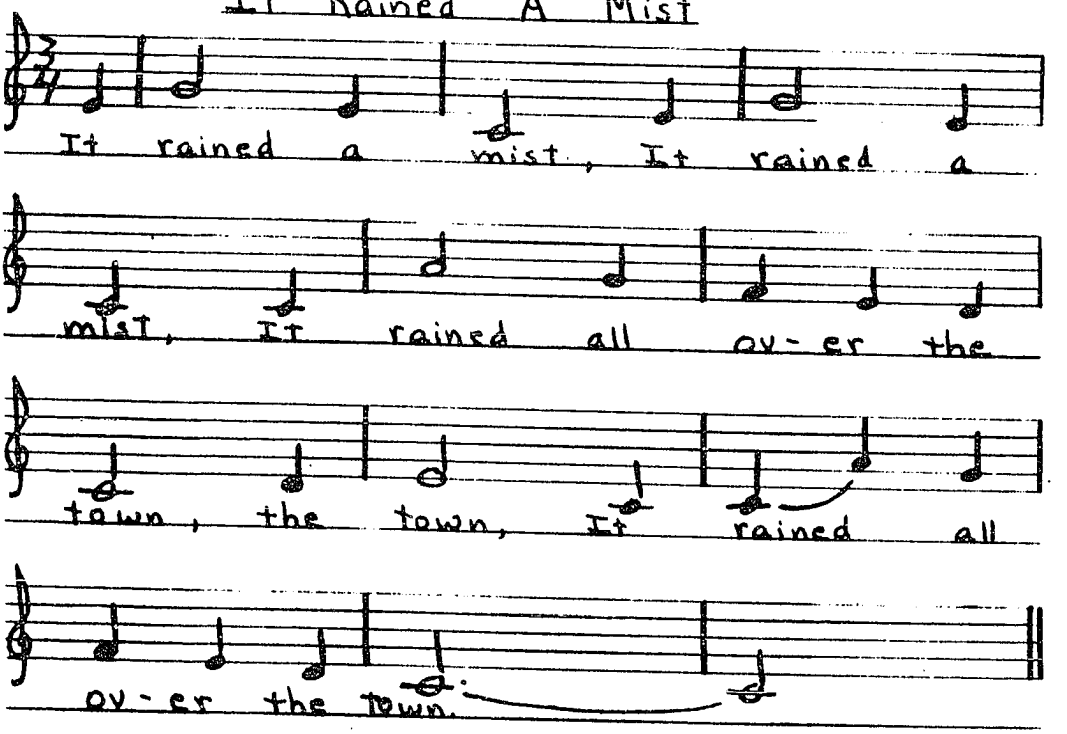
Who's That Tapping At The Window?



It Rained A Mist



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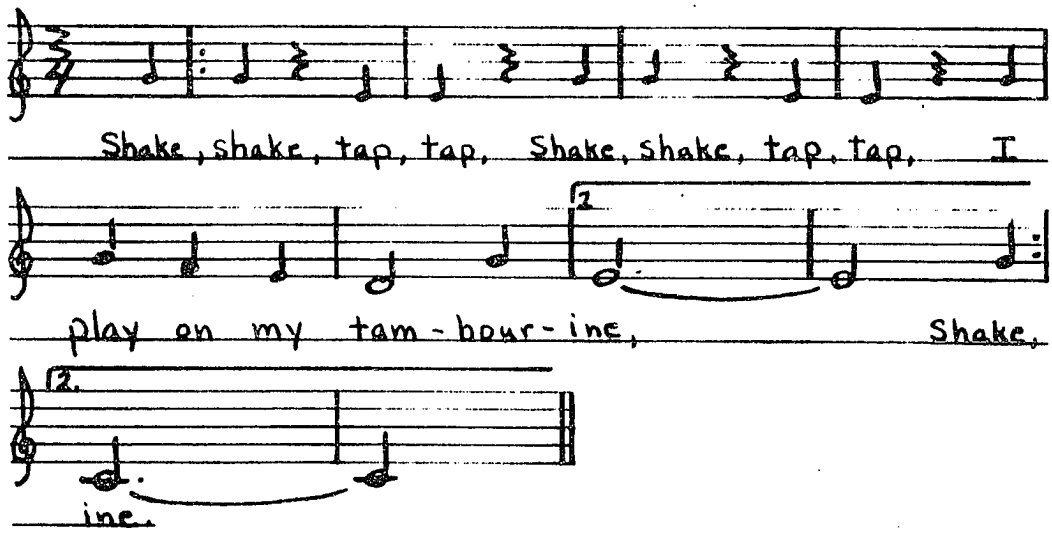
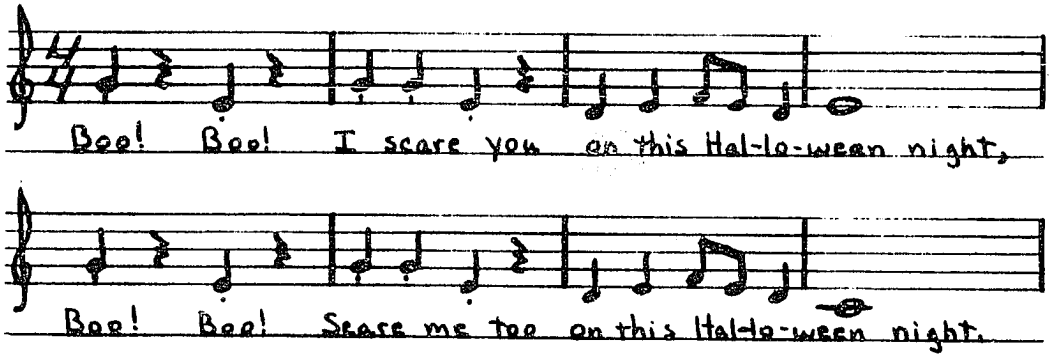
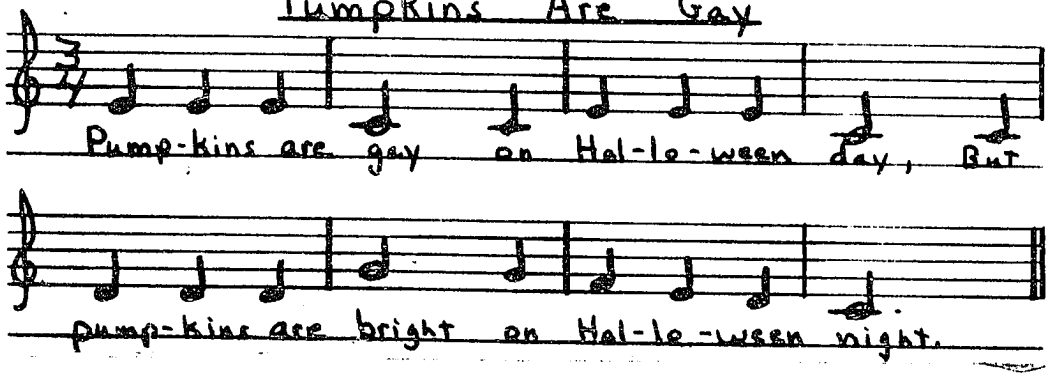
Shake, Shake, Tap, Tap



Boo! Boo!



Pumpkins Are Gay



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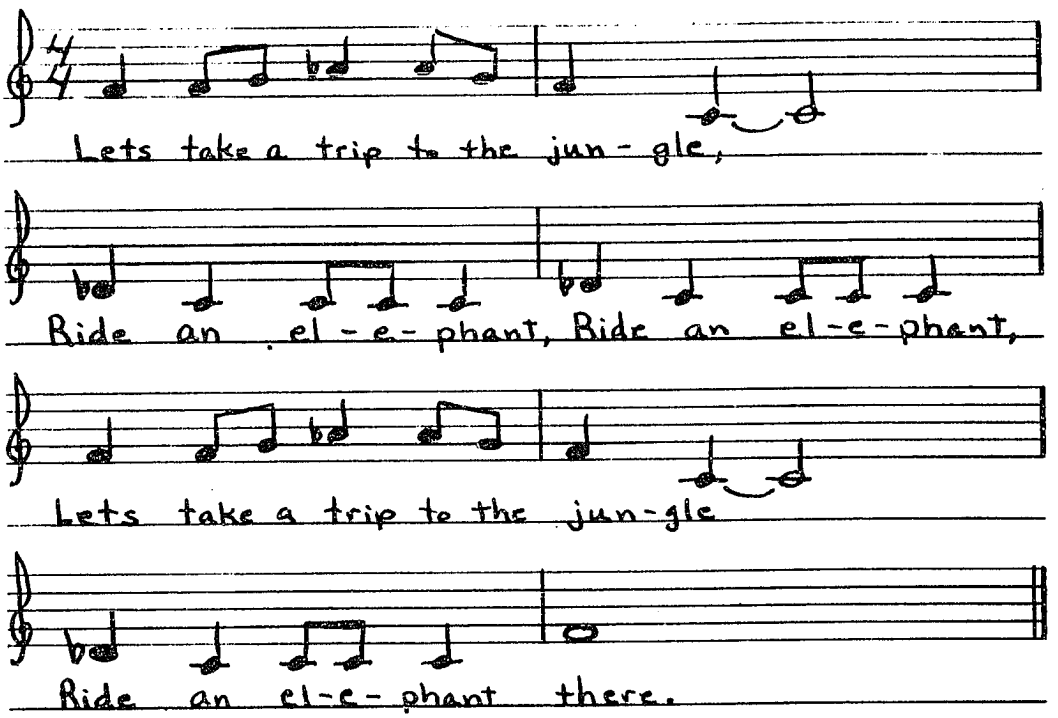
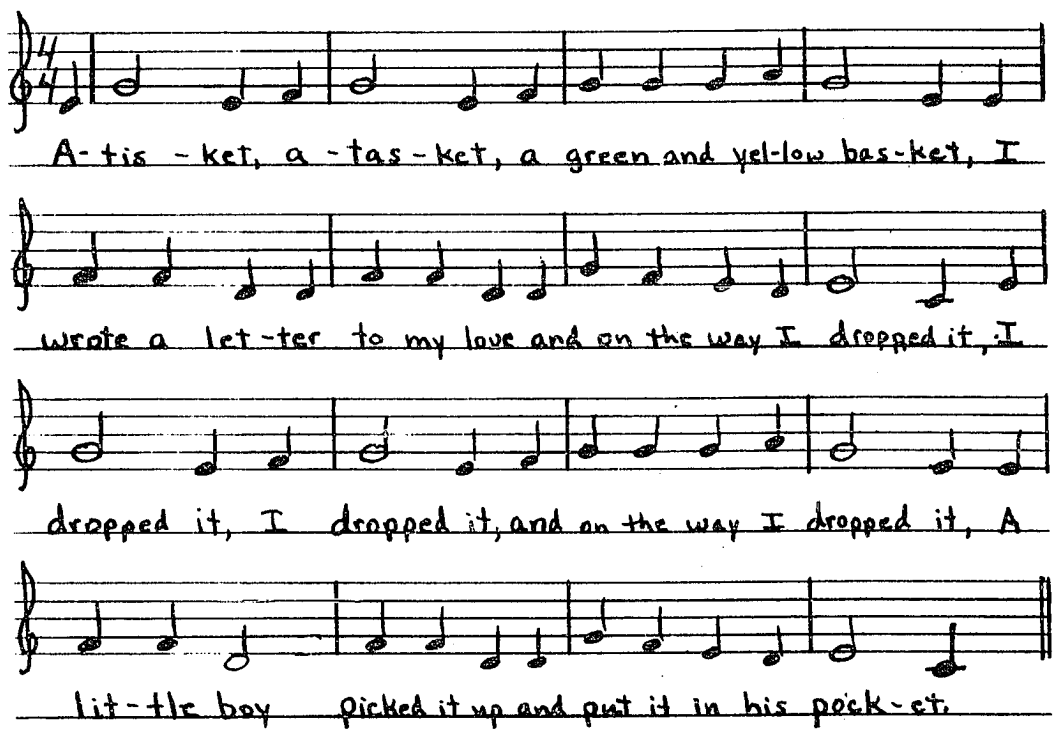
Jungle Trip



A-Tisket A-Tasket


A-tis-ket, a-tas-ket, a green and yel-low bas-ket, I
wrote a let-ter to my love and on the way I dropped it, I
dropped it, I dropped it, and on the way I dropped it, A
lit-tle boy picked it up and put it in his pock-et.

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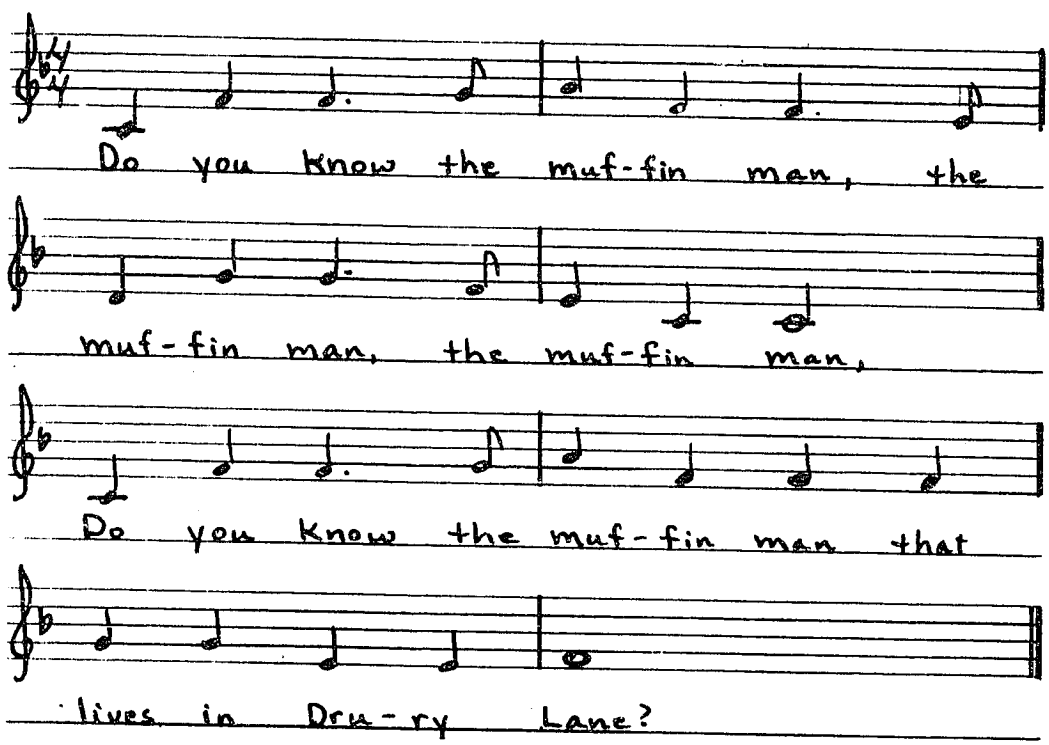
London Bridge

The Muffin Man



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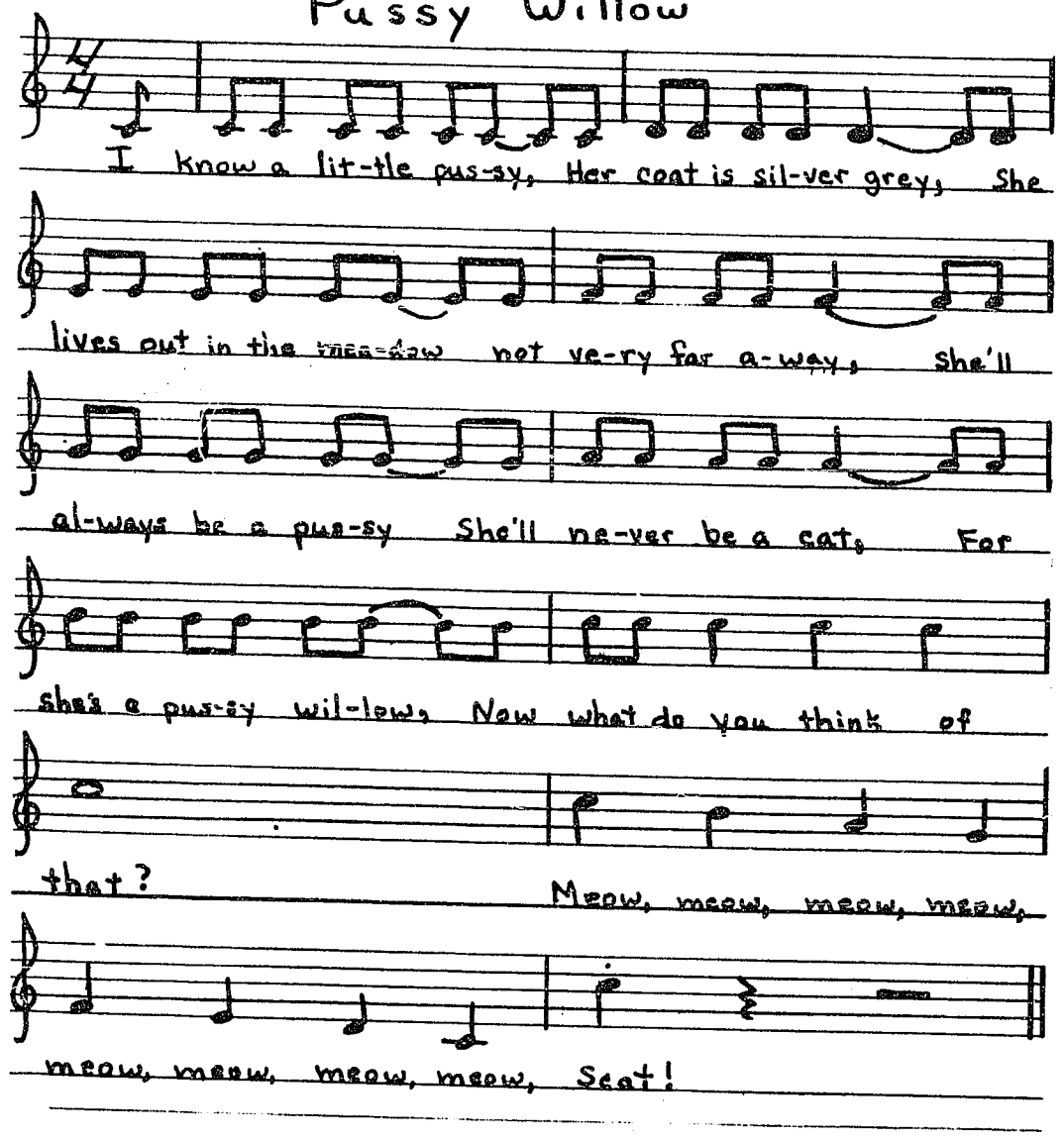
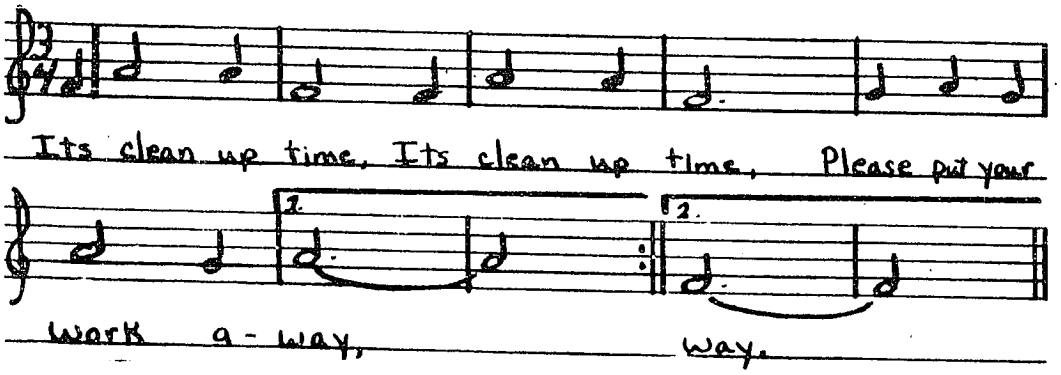
Pussy Willow


I know a lit-tle pus-sy, Her coat is sil-ver grey, She
lives out in the mea-dow not ve-ry far a-way, She'll
al-ways be a pus-sy She'll ne-ver be a cat, For
she's a pus-sy wil-low, Now what do you think of
that?
Meow, meow, meow, meow,
meow, meow, meow, meow, Scat!

Clean-up Song



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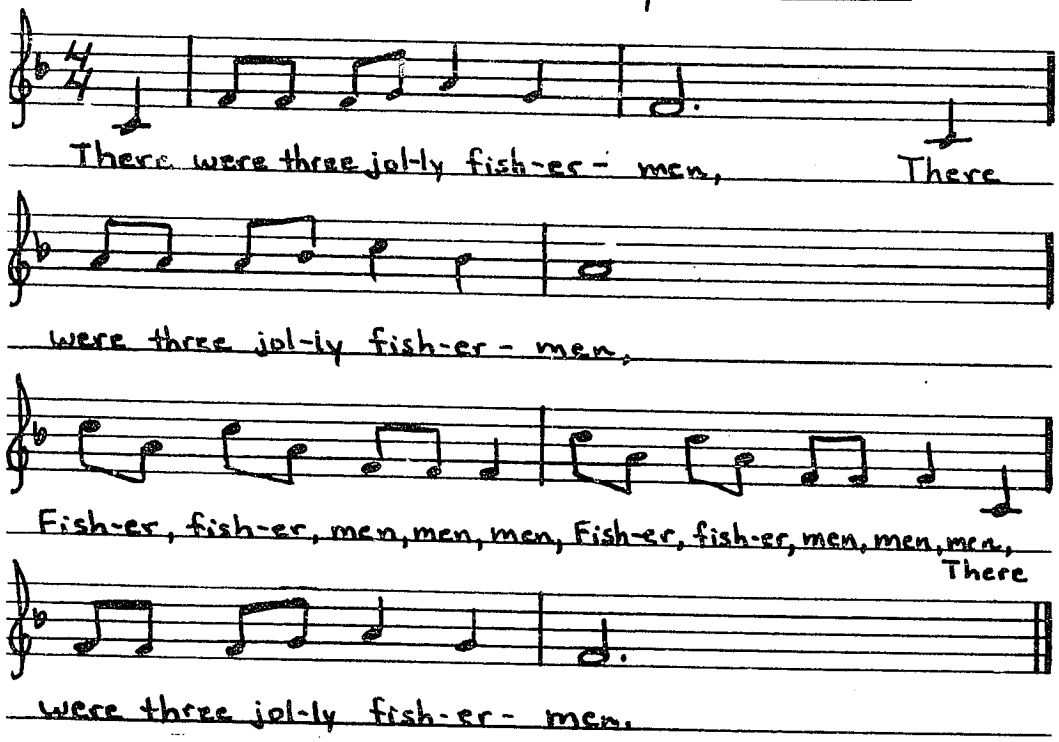
Jingle Bells

Jin-gle bells, jin-gle bells, jin-gle all the way,
Oh what fun it is to ride in a one horse o-pen sleigh.
Jin-gle bells, jin-gle bells jin-gle all the way,
Oh what fun it is to ride in a one horse o-pen sleigh.

There Were Three Jolly Fishermen


There were three jol-ly fish-er- men, There
were three jol-ly fish-er- men,
Fish-er, fish-er, men, men, men, Fish-er, fish-er, men, men, men,
There
were three jol-ly fish-er- men.

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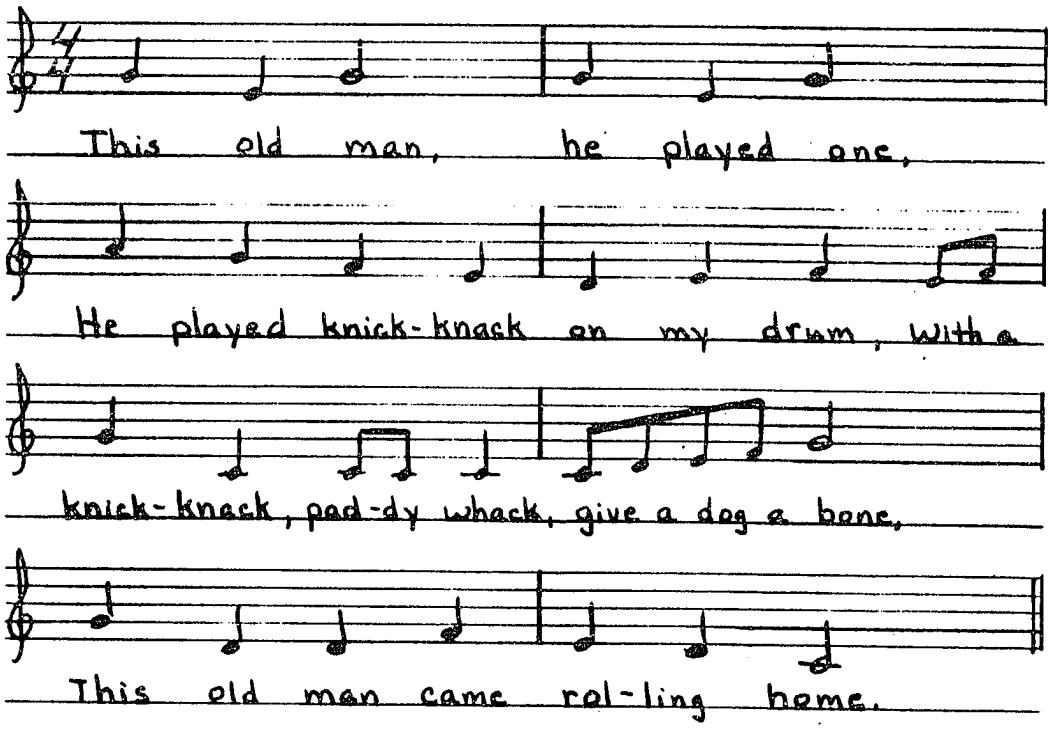
This Old Man


This old man, he played one,
He played knick-knack on my drum, with a
knick-knack, pad-dy whack, give a dog a bone,
This old man came rol-ling home.

Old King Cole

Oh, Old King Cole was a mer-ry old soul, And a
mer-ry old soul was he. He
called for his pipe and he called for his bow, And he
called for his ——— all.

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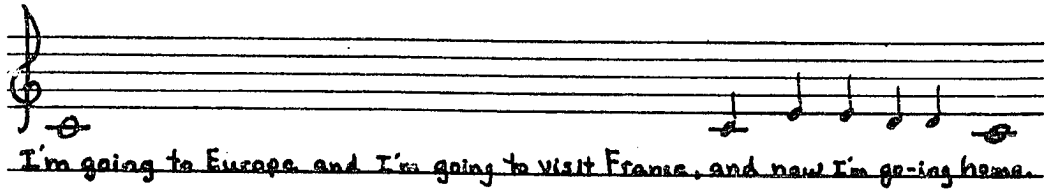
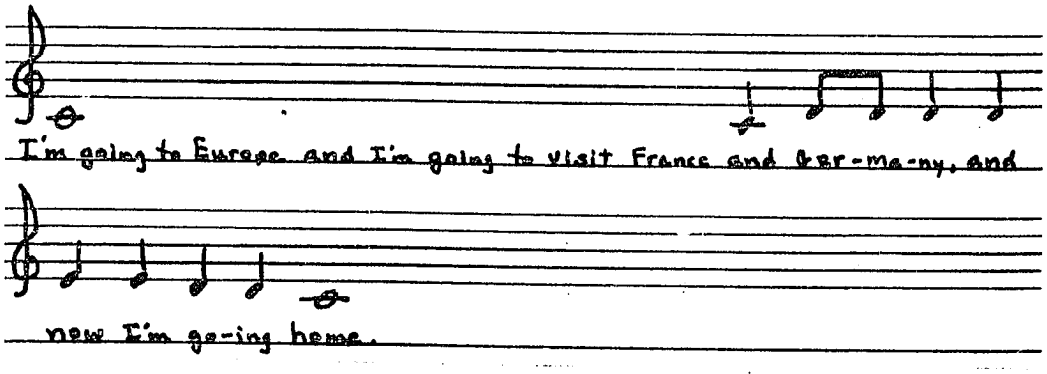
SCALE SONG FOR GEOGRAPHY

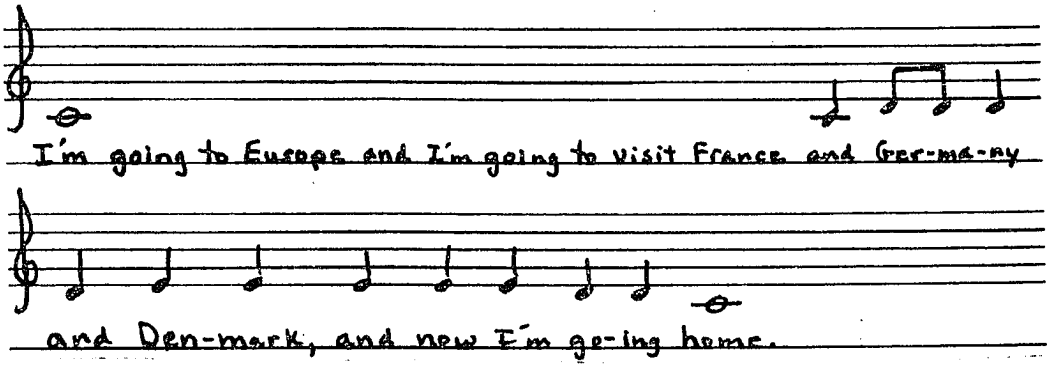
Tell the children that the class is going to pretend to take a trip. Ask one person what continent he or she would like to visit. "Europe." Ask another person what country he or she would like to visit in Europe. "France."



Ask another person for another country. "Germany." Sing:



Ask for another country. "Denmark."



Continue in this manner until eight countries have been named. The flag of the country and/or the piece from the wooden puzzle map of Europe may be obtained and set in order to help the memory of the sequence.

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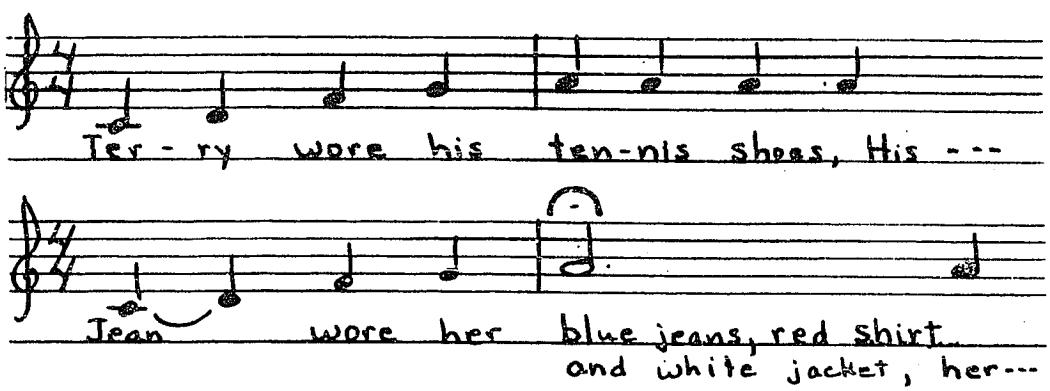
Mary Wore Her Red Dress

This song is adapted from a Texas folk song. The words may be changed to describe the clothing of any person in the class. This may be done with either short or long descriptions such as:



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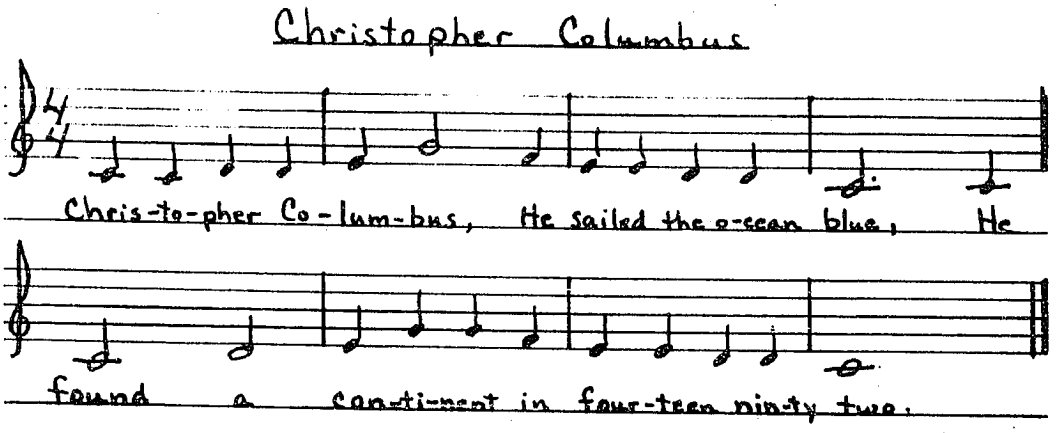
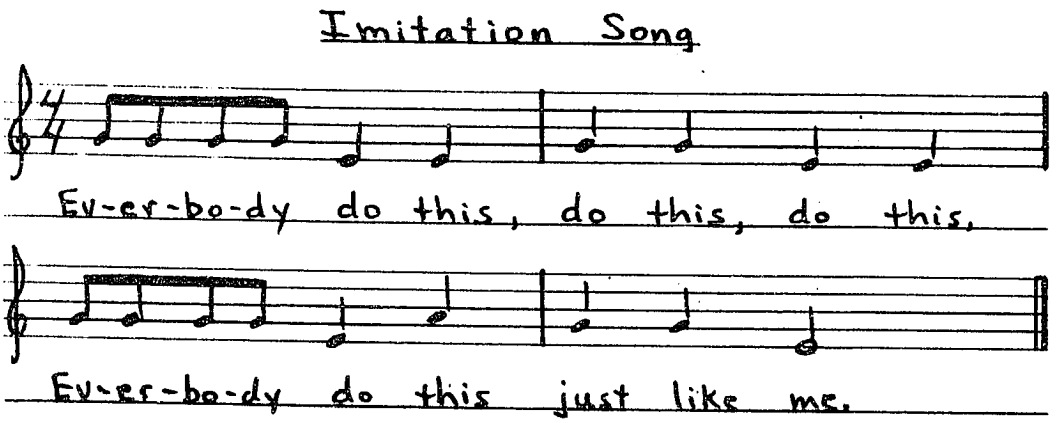


It would be appropriate to make up additional words for this song which acknowledge the fact that Leif Erickson got to North America before Columbus and both found that there were people already there.



One person decides on the action and does it either while singing or after the song is sung. The group imitates. This offers many possibilities for inventiveness in both action and song.

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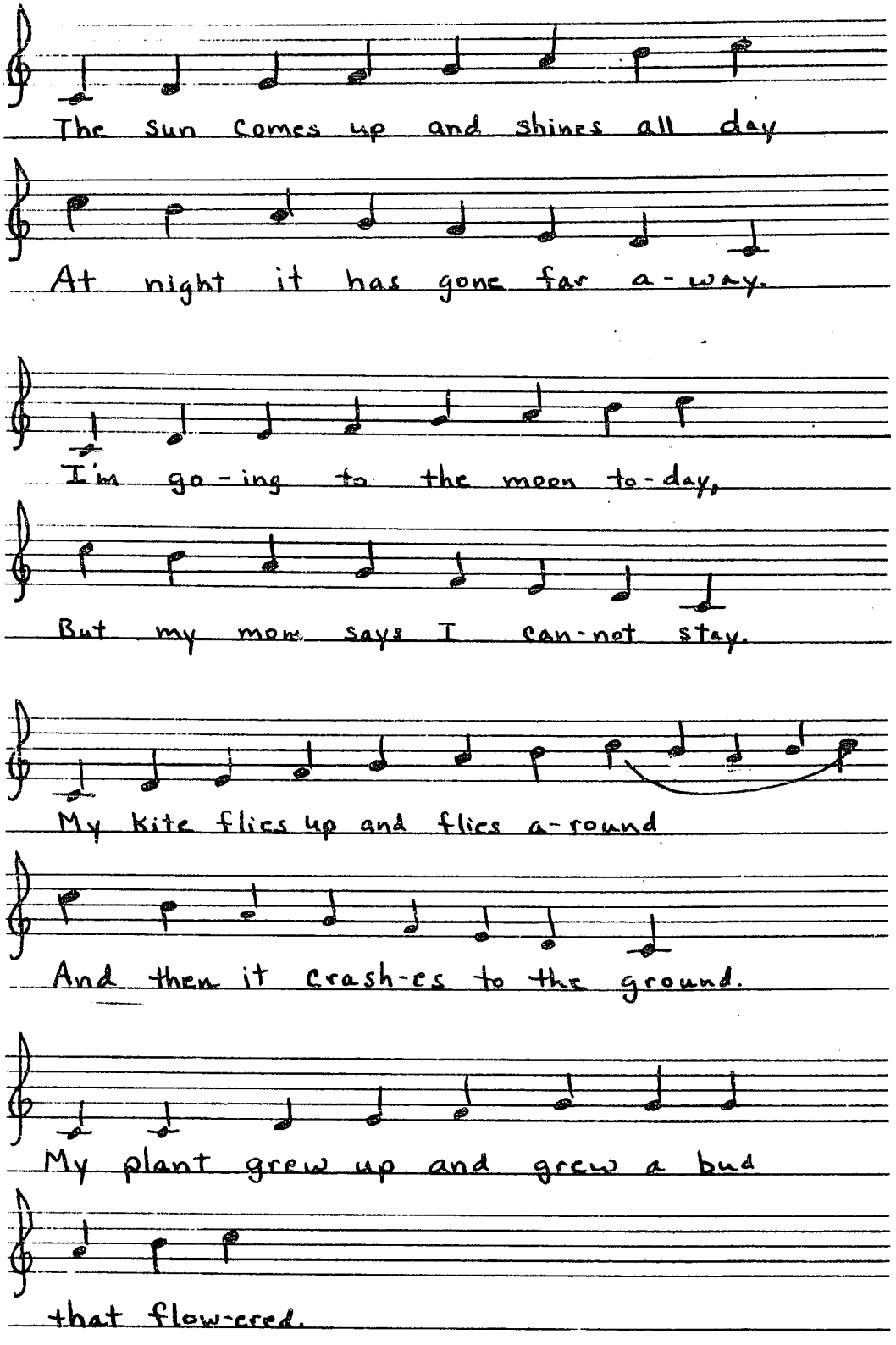
Examples of songs made up for the scale.


The sun comes up and shines all day
At night it has gone far a-way.
I'm go-ing to the moon to-day,
But my mom says I can-not stay.
My kite flies up and flies a-round
And then it crash-es to the ground.
My plant grew up and grew a bud
that flow-ered.

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Melodies for which the young people may compose all the words.

Round

Round

French Tune

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APPENDIX II

SCIENCE EXPERIMENTS FOR THE EXPLORATION OF SOUND (VIBRATION)

There are four basic ways in which musical sounds or vibrations may be produced. They are striking, plucking, sliding and blowing - and all may be illustrated with instruments which may be home made. Each musical instrument makes its characteristic sound or sounds by utilizing one or more of these four basic ways. Before introducing a family of instruments its method of tone production may be demonstrated through the use of one or more scientific experiments. The instrument families and their corresponding method of tone production are:

String family - plucking and sliding

Woodwind family - blowing

Brass family - blowing

Percussion - striking

I. PRODUCING VIBRATIONS BY STRIKING.

A. Water glasses filled with graded quantities of water.

1. Materials: Two sets of 8 identical straight sided glasses, one set of which each has an indication graded to the amount of water needed to produce each tone of the scale, one set with no indications; a pitcher full of

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water; a mallet.

Presentation:

The glasses are displayed in the environment in order, from lowest indication to highest. For a presentation the adult may use only two or three glasses, such as c, g, b. Pour water from pitcher to indication in each glass. Ask the children to listen. Strike the lowest glass with the mallet, as for the bells. Repeat with middle and high glass, drawing attention to the differing quantities of water. As you strike the glass, draw attention to using a gentle touch. The children may continue with all the glasses.

The next step is to grade the unmarked glasses.

Purpose:

This activity acts as an indirect preparation for the Percussion Family of instruments of the orchestra whose music is produced by striking.

Variations:

1. The children may pick out by ear tunes they know.

2. In India this is done with China bowls about ten inches in diameter. One set of eight bowls is marked, the other set is not. The children "tune" the second set by pouring water into the bowls until they match the first set.

3. Fill eight large identical glass glasses with graduated quantities of fresh water. The first glass will be nearly full, the last nearly empty. When the glasses are arranged on wood and struck near the rim with a spoon, the sounds should reproduce the scale. Mark the water level of each glass so children may do the experiment themselves at any time.

B. Tuning fork

Materials: An A 440 tuning fork, wood table or box, dish of water.

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Presentation:

(This may be given in three presentations.) Strike the tines of the tuning fork gently on any solid surface. Hold it in the air. Ask the children if they heard a noise. A very soft noise will be emitted. Strike again and hold the base on a wood surface to act as a sounding board. Ask the children if they heard a noise. A clear tone will be emitted. Strike again and place in a shallow bowl of water. Ask whether children heard anything. No sound will be emitted. Strike once again and place in water, asking the children this time to, "Watch!" Small waves will be set in motion by sound vibrations we cannot hear.

Purpose:

Wood is an excellent conductor of sound waves. It acts as a sounding board. Many of our musical instruments are made of wood. Air allows sound waves to "spread out" and produces a less intense tone. Water is a poor conductor of sound.

Later, it may be demonstrated to the children that the tone they hear when the tuning fork is struck is the same tone as that of the "a" bell.

> The older children may be interested to know that the "a 440" engraved on the tuning fork means that the tone produced is an "a" and it vibrates at 440 waves per second. The "a" one octave below vibrates at 220 times per second. The "a" one octave above vibrates at 880 times per second.

When the instruments of the orchestra are introduced, the tuning fork may be reintroduced in its function as an instrument to be used for tuning the instruments of the orchestra to the same tone.

Variation:

Use tuning forks which produce different pitches.

C. Spoon on a string

Materials: metal spoon on which is tied an 18 inch length of string.

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Presentation:

Wrap loose end of string around the index finger two or three times. Gently put finger in the ear and let spoon hang free on its string. Tap spoon with finger.

Purpose:

A bell like gong will be heard. The vibrations travel up the string with a greater intensity than they travel through the air, producing a louder tone.

Variations:

1. Tap spoon with a metal object such as a coin or pen.

2. Tie two strings to the bottom corners of a wire coat hanger. Put both fingers in the ears and have another person tap the hanger.

II. PRODUCING VIBRATIONS BY BLOWING.

A. Pop Bottles filled with graded quantities of water.

Materials: Two sets of 8 identical unlabeled bottles, one set of which each has an indication graded to the amount of water needed to produce each tone of the scale, one set with no indications; a pitcher full of water.

Presentation:

Procedure is identical to that of the water glass activity except that the sound is produced by blowing across the top of the bottle openings as for pipes of Pan.

Purpose:

As you blow across the air above the water in the bottles, it sets the column of air in motion. As with pipes of Pan, this activity is an indirect preparation for introduction of the woodwind and brass instruments.

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Variations:

Children may pick out by ear tunes they know.

B. Soda Straw "pipes of pan"

Materials: Four soda straws or hollow reeds of graded lengths bound together side by side so that the tops are all even and are placed from long to short.

Presentation:

Place the long straw's top edge against the bottom lip. Pucker lips as for whistling and blow across the top opening of the straw. A low tone will be produced. Continue to the next longest straw. A somewhat higher tone will be produced. Continue with the two shorter straws.

Purpose:

The longer air column allows the sound waves to become longer and produce a lower tone while the shorter ones produce a higher tone. This activity is an indirect preparation for the introduction of the Woodwind and Brass Families of instruments of the orchestra whose tones are produced by blowing and are made higher and lower by lengthening and shortening tubes in the instruments.

Variation:

Child flattens the end of a straw and cuts it into an arrow shape, then blows and listens to the pitch. A little more is cut off the straw and the child blows again. This time the pitch is higher.

C. Speaking through a tube

Materials: Section of garden hose or other narrow tube.

Presentation:

One child stands at either end of the tube. One places his end of the tube to his ear. The other speaks a message through his end of the tube in a whisper.

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Purpose:

The message will be heard clearly through the tube. When the volume of air through which the sound vibrations travel is made narrower the intensity of sound increases.

III. PRODUCING VIBRATIONS BY PLUCKING AND SLIDING

A. Plucking a rubberband

Materials: Rubberbands of different thicknesses and lengths. Stationary hook.

Presentation:

Select a rubberband. Place one end in the hook. Slip the index finger of one hand through the other end of the rubberband. Pluck the rubberband with the index finger of the other hand as the rubberband is alternately stretched and relaxed.

Purpose:

The tension under which the rubberband is held determines the pitch it produces. The tenser the rubberband, the higher the pitch.

B. The monochord

Materials: A wood box with a round hole on one side; a flat wood neck (with or without frets); a violin string; a peg; a bow (optional).

Presentation:

There may be two monochords in the House of Children, one without frets and one with. Dr. Montessori describes the procedure: "One of the instruments which brings the child to producing and recognizing notes is the monochord. It is a simple, resonant box with one string. The first exercise is in tuning. The string is made to correspond with one of the resonant prisms (do). This is made possible by a key with which the string can be loosened or tightened. The child may now be taught to handle the violin bow or mandelin plectrum or he may be instructed in the finger thrumming used for the harp or banjo. On one of our

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monochords the notes are indicated by fixed transversal frets, the name of each note being printed in the proper space. These notes are, however, not written on the other monochord where the child must learn to discover by ear the proper distances at which the notes are produced. In this case the child has at his disposal movable frets with which he can indicate the points he has discovered as producing a given note. These frets should be left in position by the child to serve as a check on his work." (The Montessori Elementary Material, Maria Montessori, translated by Arthur Livingston. Schocken Books, 1973, pp. 338-339.)

Variations:

1. The monochord may be used to demonstrate sound vibrations. The adult plucks the string and asks the children to listen to its tone. The adult plucks the string again and asks the children to watch the string vibrate. The adult or a child may pluck the string again and ask one of the children to place a finger very lightly against the box to "feel" the sound.

2. A guitar, violin or other stringed instrument may be introduced to the children at this time.

Purpose:

The monochord gives the child an opportunity to grasp the physics involved in making music with a stringed instrument. In addition, the child himself may make music with it. It acts as an indirect preparation for the introduction of the String Family of instruments of the orchestra which produce music by means of plucking and drawing with a bow.

IV. OTHER RELATED EXPERIMENTS WITH SOUND (VIBRATION)

A. Tapping on a table

Materials: Rectangular wood table.

Presentation:

Two children participate. One stands at each end

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of the table. One child puts his ear to the table. The other raps the table softly.

Purpose:

The child with his ear to the table will hear a louder noise than if he had not had his ear to the wood. This shows that mediums other than air can conduct sound waves and that wood produces a louder sound than air.

B. Making a crystal glass ring

Materials: Tray; a crystal or fine wine glass with indications at three graded levels; pitcher of water; finger bowl of water; sponge; bucket.

Presentation:

Wash hands. Pour water from pitcher to lowest indication. Dip index finger in bowl of water. Steady glass with the other hand. With moderate pressure run finger tip around the rim of the glass until a clear ringing tone is heard. Pour water to middle indication and proceed as before. Continue to the highest indication. Empty water from glass into bucket so that child may take over.

Purpose:

To show that the sound is produced by vibrations of the water against the glass.

Variation:

The child may be able to observe the tiny waves made by the sound vibrations if the glass is shallow enough.

C. Tin can telephone

Materials: Two tin cans with holes punched in the bottom; string about six feet long. Insert each end of the string through the holes in the cans and knot the ends.

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Presentation:

Two people, each taking a can, stand far enough apart to make the string taut. One places the can to one ear, one places the can at his/her mouth and softly speaks a message to the other.

Purpose:

Though the message is spoken softly, the listener can hear it clearly. The string amplifies the sound vibrations when it is held taut and nothing touches the string to stop the vibrations.

Variations:

1. The speaker gives a message ever more softly until the listener signals that he can no longer hear.

2. The speaker gives soft commands and the listener responds, i.e., "raise your right hand."

3. Three persons are involved: a speaker, a listener and a judge. The judge stands by the listener and has no can. The speaker gives a message very softly so that only the listener should hear it. The judge signals if the message can be heard and the speaker continues until the judge cannot hear.

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APPENDIX III

THE MUSIC HISTORY RECORDS

Recorded by concert pianist, Martha Bradon Jones, in cooperation with the North American Montessori Teachers Association.

Contents

Series I

Record 1

Side A
- Bouree in F - Bach (central Germany 1685-1750)
- German Dance in D - Haydn (Austria 1732-1809)
- A Little Joke - Kabalevsky (Russian (1904-)

Side B
- Minuet in F - Mozart (Salzburg, Austria 1756-1791)
- Soldiers' March - Schumann (Austria 1810-1856)
- Vivo - Stravinsky (Russian 1882-1971)

Record 2

Side A
- March - Bach (1685-1750)
- The Swineherd - Grieg (Norway 1853-1907)
- Street Games - Elie Siegmeister (New York 1909-)

Side B
- Limping - Rameau (France 1683-1764)
- Solfeggietto - C.P.E. Bach (a son of Johann Sebastian Bach)
- Folk Dance - Bartok (Hungary 1881 - died in the United States in 1945)

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Record 3

Side A German Dance in C - Beethoven (Bonn, Austria, December 16, 1770-1827)
Waltz in A Flat - Schubert (Vienna, Austria 1797-1828)
March - Prokofieff (Russia 1891-1953)

Side B Musette - Bach (Germany 1685-1750)
Minuet in E - Haydn (Austria 1732-1809)
Prelude in A - Chopin (Poland 1810-1849)

Record 4

Side A Fantasie - Georg Philipp Telemann (Germany, 1681-1767)
Minuet on the Name of Haydn - Maurice Ravel (France, 1875-1937)
"I won't go!" "Oh Yes You Will!" - Jane Young (United States -)

Side B Minuet in C Major - Mozart (Salzburg, Austria 1756-1791)
Blindman's Buff - Robert Schumann (Saxony [Germany] 1810-1856)
The Giant Has a Hobby Horse - John La Montaine (American composer now living in California)

Record 5

Side A March - Daniel Gottlieb Turk (1756-1813)
Napolitana - Igor Stravinsky (St. Petersburg, Russia, 1882-1971)
Arapaho - Ross Lee Finney (1906 - living in Michigan)

Side B Children's Piece - Felix Mendelssohn (Germany 1809-1847)
Black Key Dance - Zoltan Kodaly (Hungary 1882-1967)
Family Meeting - Norman Dello Joio

Series II

Record 1

Side A "Baroque Music"
Preludio in G Major (1720) - George

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Frederic Handel (Halle, Germany 1685-1759)
Sonata in D Minor - Domenico Scarlatti (Naples, Italy 1685-1757)
Gique in A Major - Johann Sebastian Bach (North Central Germany 1685-1759)

Note: The four pieces from the Baroque Period in Series I are listed in the instructions that accompany the records, so that they may also be used.

Side B "Classical Music"
German Dance in B Flat - Franz Joseph Haydn (Austria 1732-1809)
Variations on French Folk Tune, "Ah! je vous dirai, Maman" - Wolfgang Amadeus Mozart (Salzburg, Austria 1756-1791)
Scotch Dances - Ludwig von Beethoven (Germany 1772-1827)

Note: The seven pieces from the Classical Period in Series I are listed.

Record 2

Side A "Romantic Music"
Intermezzo in E Flat Major, Opus 117, Number 1 - Johannes Brahms
The Witch - Edward MacDowell (American 1861-1908)
Hunting Song - Robert Schumann (Germany June 8, 1810 - July 29, 1856)

Note: The six pieces from the Romantic Period in Series I are listed.

Side B "Modern Music"
Bagpipers - Bela Bartok (Hungary 1881 - New York 1945)
Pastorale - Paul Hindemith (Switzerland 1895 - United States 1963)
Andantino - Dmitri Kabalevsky (Russia 1904-)

Note: The ten pieces of Modern Music in Series I are listed. Also, record one in Series III is devoted entirely to Bartok.

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Record 3

Side A "Impressionistic Music"
In a Boat (from "Petite Suite") - Claude-Achille Debussy (France 1862-1918)
Pavane for Sleeping Beauty (from "Mother Goose Suite") - Maurice Ravel (France 1875-1937)
Berceuse (from "Dolly Suite") - Gabriel Faure (France 1845-1924)

Note: The three Impressionisti pieces from the First Series are listed.

Side B "U.S. Contemporary Music"
Peter's Tune with Variations (1954) - David Kraehenbuehl (born Urbana, Illinois, 1923 - living presently in Cranbury, New Jersey)
Song (from Piano Suite No. 1) (1971) - John Diercks (living presently in Hollins, Virginia)
The Chase (from "Eight Piano Pieces" 1957) - Alexander Tcherepnin (chair-ep-neen) (Rusia 1899-1977)

Note: The five pieces of U.S. Contemporary Music in the First Series are listed.

Series III

Record I

Side A "Lyric Pieces" of Edvard Grieg, Romantic Era (Norway 1843-1907)
National Song - from Op. 12.
Elfin Dance - from Op. 12.
Bellringing - from Op. 54.

Side B Bela Bartok (Hungary, 1881 - New York City, 1945)
Rondo on Folk Tunes
Teasing Song - from "For Children"
Evening in the Country

Record II

Side A Wolfgang Amadeus Mozart (Salzburg, 1756 - Vienna, 1791)

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Allegro, K. 3
German Dance in C, K. 605, No. 3
Rondo a la Turk, K. 331

Side B Robert Schumann, Father of Romantic Music
(Saxony, Cnetral Germany 1810-1856)
The Horseman
Harvest Song
Knight Rupert

Note: The series continues to grow year by year. For information contact:

Martha Braden Jones
780 West End Avenue, #7A
New York, New York 10025

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APPENDIX IV

MUSIC FOR MOVEMENT ON THE LINE

This appendix contains the musical selections for movement activities on the line from The Montessori Elementary Material. Dr. Montessori says the following about these selections:

Musical Phrases for the Initial Rhythmic Exercises

> We give here in complete form the musical phrases used by us for the first rhythmic exercises. They are adequate for giving the sensation of rhythm and for suggesting the motory actions associated with the rhythm. This musical material now forms in our schools part of the material which is experimentally established.

Works from which Selections are Taken	Motor Reactions Provoked
1. "Ancora un bacio," mazurka, Bastianelli	Slow walk.
2. "Si j'etais roi," Adolphe Adam . .	Accelerated walk.
3. "Eagle March," Wagner	March step.
4. "Galop," Strauss	Run.
5. "Italian folk-song"	Hop.
6. "Pas des patineurs"	Sedate walk.[1]

After each piano selection there are instructions for piano music devised by Sanford Jones for people who do not read music. There are also instructions for playing the music on the bells.

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SLOW WALK

ANCORA UN BACIO[2]

(Mazurka)

Bastianelli.

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Other selections suggested by Vittorio Fresco-Galeazzi are:

> Symphony number 7 by Beethoven, second movement
> Barcorolle from "The Tales of Hoffman" by Jacques Offenbach
> "Largo" by Handel[3]

Piano music for people who do not read music:

> Place thumbs on middle c, let the remaining four fingers of the right hand fall on the four white keys immediately above middle c while the remaining four fingers of the left hand fall on the four white keys immediately below middle c. Play at random, ending on middle c.

Walking music on the white bells is played at random, ending on the lowest or highest bell (c or c')..

Notes:

a. Do not play in a marked, rhythmic manner because children may take longer to balance on one foot than another when they are walking heel to toe on the line. This is intended to be an exercise in balance - not rhythm.
b. Ending on middle c on the piano or on the lowest bell gives the children a clue that the walking music is ending. This is a preparation for later work with cadences.
c. The music played should set an atmosphere of peacefulness and quiet. This is possible only when the adult is inwardly serene and will aid the children in the development of their own serenity and concentration.

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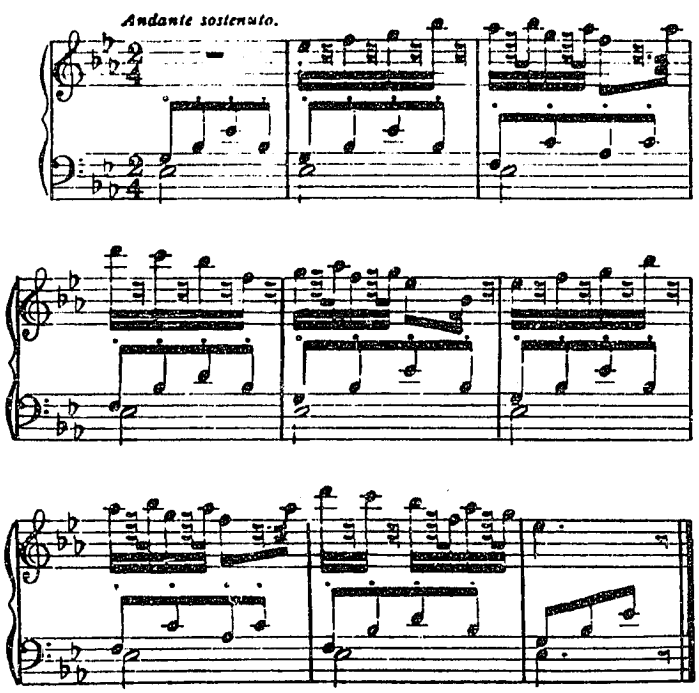
ACCELERATED WALK

SI J'ÉTAIS ROI [4]

Adolphe Adam.



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MARCH STEP

EAGLE MARCH[5]

Wagner.

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MARCH STEP (cont.)

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Piano music for people who do not read music:

> Play fifths low on the keyboard in a marked percussive manner. The right hand plays single notes at random on the white keys of the C major scale in the middle range of the piano in the same march rhythm as the left hand.

Marching music on the bells uses two mallots.

> The left hand plays the lowest bell (c) in a march rhythm. The right hand begins on the fifth bell (g) and then plays randomly (in the same rhythm as the left hand) on all eight bells of the C major scale.

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LIGHT RUNNING

GALOP 6

Strauss.

Piano music for people who do not read music:

Use black keys high on the piano. Choose one note for the left hand and play it repeatedly. With the right hand play different black notes in the same running tempo as the left hand.

Running music on the bells:

The black bells should be set all together in a line on a table next to the bell cabinet. Use the lowest sounding bell for the left hand and the rest of the bells for the right hand. Play them in a running manner.

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SKIPPING/GALLOPING

ITALIAN FOLK SONG[7]

Piano music for people who do not read music:

The left hand plays the same fifths that were used for the march; however, instead of playing both notes at the same time, the long part of the skipping rhythm is played with the fifth finger and the short part is played with the thumb. Melody notes are played with the right hand in the same skipping rhythm as the left hand.

Skipping/Galloping music on the bells:

Play fifths such as low c & g, or d & a, or e & b, or f and high c. Play the long part of the skipping rhythm with the lower sound, the short part with the higher sound.

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SEDATE WALK

PAS DES PATINEURS[8]

Piano music for people who do not read music:

> Play in the same manner as the march, except twice as slow.

Sedate Walk music on the bells:

> Play in the same manner as the march, except twice as slow.

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APPENDIX IV - FOOTNOTES

[1]Maria Montessori, The Montessori Elementary Material, trans. by Arthur Livingston, (Cambridge: Robert Bentley, Inc., 1965), p. 367.

[2]Maria Montessori, Elementary Material, pp. 368-369.

[3]Vittoria Fresco-Galeazzi, "Course on Music Education", lecture at the Sixth International Training Course at the Centro Internazionale Studi Montessoriani, Bergamo, Italy, Spring 1967.

[4]Maria Montessori, Elementary Material, p. 369.

[5]Maria Montessori, Elementary Material, pp. 370-371.

[6]Maria Montessori, Elementary Material, p. 372.

[7]Maria Montessori, Elementary Material, p. 373.

[8]Maria Montessori, Elementary Material, p. 374.

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APPENDIX V

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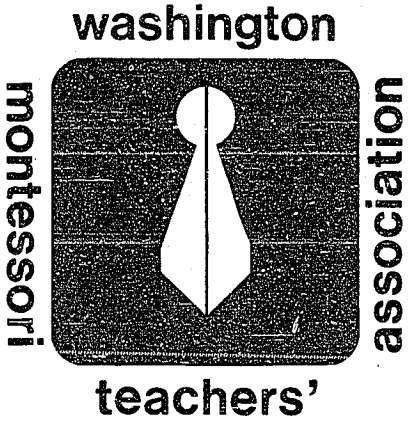

guidelines for schools

GUIDELINES FOR AMI MONTESSORI SCHOOLS

The following are suggested Guidelines for an AMI school which have been developed by the combined efforts of the teachers of the Washington Montessori Teachers' Association through small group discussions and classroom observations. These guidelines may be useful to:

- persons beginning a school
- parents choosing a school
- teachers evaluating themselves or a school
- administrators evaluating their schools

It is understood that certain conditions might be adapted to special communities and situations. The priorities and methodology for implementation need to be worked out with individual school and staff in relation to that school, staff, and parents.

The guidelines have been developed to encourage growth through sharing among Montessori teachers and as an additional clarification of Montessori's contribution to the field of Early Childhood Education.

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1 physical plant

Facilities

- Preferably, at least two classrooms at the same site
- Safe outdoor play area which, preferably, allows for exploration of nature,
- Tile or wood floor in good condition — no wall to wall carpeting
- Adequate storage space for Montessori materials not in use
- Source of water in the classroom — preferably, class should have child-sized sink
- Bathrooms, preferably, child-sized and located in the classroom, or at least easily accessible
- Comfortable, draft-free temperature and ventilation
- Adequate window area to provide natural lighting and a view of the outdoors
- Size of classroom ideally 30 feet by 50 feet; 30 by 40 adequate — see addenda
- Provisions for janitorial services

Environment

- Children's furniture of varied sizes, shapes and pastel colors; lightweight and well constructed (see addenda)
- Stable, white or neutral, child-height shelves suggested
- Lightly colored walls
- Clean, ordered, sequential environment

Materials

- AMI-approved Montessori equipment in all basic areas which is maintained in good condition
- Attractive, color coded practical life
- Montessori handmade materials appropriate to the class
- Other materials, at the discretion of the directress, which conform to Montessori principals in such areas as:
  a) art, music, history, science and georgraphy
  b) outdoor and indoor equipment which aids in physical development
- Adequate amounts of consumable supplies such as: practical life, writing and art supplies
- Library for parents, children and teachers.

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2 teacher

Background as a professional

- AMI diploma
- Rich and varied experiences in many cultural areas
- Professional growth, including methodology and specific subject matter
- First-aid training
- Continuous experience with same class

Position in school framework

- Contract agreement specified in advance, should include:
  a) single class with extended session for older children
  b) lunch period for teacher without classroom responsibility
- Responsibility to maintain personal records showing all aspects of each child's development
- Authority to make pedagogical decisions
- Authority to interview and make final selection of children after 4-6 week trial period

In the classroom

- Good general health and emotional stability
- Appears attractive
- Possesses personal internalized sense of order
- Moves gracefully
- Speaks with a quiet, well modulated voice
- Uses neither rough nor excessive affectionate physical handling of the children
- Exemplifies grace and courtesy to the children
- Teaches on child's physical and mental level
- Links child with the apparatus
- Gives varied lessons to all age levels
- Respects the dignity of children and teacher by setting procedure for interpersonal relationships
- Responds to children's physical, mental and emotional needs
- Draws upon community resources, including persons with special skills (artists, craftsmen, musicians), as well as field trips, movies, nature walks
- Prepares environment consistent with maturation of sensitive periods of the class and maintains its orderliness and cleanliness

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3 classroom aide

Background as a professional

- As required by administration, teacher, state and local authorities

Position in school framework

- Responsibilities specified in advance, which may include:
  - arrival and dismissal procedures
  - lunch period
  - setting up and dismantling the classroom (if needed)
  - outdoor play period
  - material making
  - assisting in maintaining the environment
- Aid should be responsible to the administration and teacher
- Aid should be hired with the mutual agreement of the teacher and the administration.

In the classroom

- Good general health and emotional stability
- Appears attractive
- Possesses personal internalized sense of order
- Moves gracefully
- Speaks with a quiet, well modulated voice
- Uses neither rough nor excessive affectionate physical handling of the children
- Exemplifies grace and courtesy to the children
- Respects the dignity of children and teacher by following procedure for interpersonal relationship

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4 class

Structure of class

- One fully qualified AMI teacher per class (see role of non-teaching aid)
- School year:
  minimum 9 months
- School day:
  3 hours per morning five days a week
  additional 1½ - 2½ hours in the afternoon for those nearing five and over; preferably five days a week
- Broad cross-section of children in each class: socio-economic, cultural, religious and racial.
- Beginning class of 12-15, building gradually to 20-25 (see addenda)
- Established class size of 25-35 (depending upon size of physical plant)
- Ages of children evenly distributed from ages 2½ - 7

Development of class

- Class development increasingly shows:
  children with body control
  children with ability to concentrate
  children completing work cycle
  children displaying grace and courtesy
  children with joy
- "Special" children shall be added to the class at the discretion of the teacher and administration

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5 school and community

Public Relations

- Efforts should be made to educate the public through:
  - actual classroom observations
  - lectures on theory of child development, especially 0-3
  - lending library and sale of books

School's relationship to applicants

- Businesslike and efficient procedure for dispensing information
- Interview as an opportunity to meet parents and child
- Prospective parents have opportunity to observe class before committment
- Selection of applicants according to priorities such as: siblings, transfer students, age needs for class distribution – parent's understanding and sympathy toward Montessori ideals – parents' willingness to learn and try teacher's suggestions

School's relationship to parent

- Require attendance at informative orientation
- Schedule minimum of two private conferences with teacher per year
- Provide opportunity for parents to observe during the year
  - establish clear guidelines for parents observing in order to minimize distractions
  - follow-up talk with parents to discuss observations and answer questions
- Record conferences, observations and suggestions to parents and other pertinent information
- Organize teacher-run study groups with parents – informal get-togethers to encourage parent interaction
- Send regular newsletter to keep open lines of communication, educate and inform – such topics as Montessori quotes, recommendations for lectures, calendar reminders, book reviews
- Encourage social relations among parents and between teacher and parents to counter "professional distance syndrome"
- Establish channels for parent complaints to teachers or administration
- Have opportunities for parents to invent their time and energy in helping the school serve children better (whether parent co-op or not) e.g. making or repairing material, cutting, painting, etc.

Services to parents

- Provide resource file listing local health services and responsible professionals for speech therapy, psychological testing, etc.
- Communicate with professionals on how to implement their constructive suggestions
- Establish lending library and sale of Montessori and other appropriate books (This can provide material for study group work)

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6 administrative structure

- Administrator - recommended to be a trained Montessorian; if not, should be active in broadening his/her knowledge of Montessori. The duties and responsibilities of the administrator should be clearly defined
- Teachers and administrator should be actively participating in formulation of school policy
- Provision should be made allowing for professional growth by:
  - Encouraging board members to attend theory lectures
  - Requiring Workshop attendance for teachers
  - Providing financial assistance to the teacher for additional training of course work
  - Allow for a minimum of 2 in-service days-year
- Regularly schedule meeting between teacher and administrator
- Cooperate with local AMI training institute program of student observation and practice (participation by first year teachers is voluntary)
- Administrator channels questions and complaints to proper personnel
- Reports:
  - School records — format to be mutually decided upon by the administrator and staff
  - Parent reports — frequent personal conferences with parents highly preferable to written reports
- School should be committed to realization of junior program

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addenda

Furniture for Montessori class of 35 children, from 3 to 6 plus

One 38" diameter table 5 year old height, circular
One 38" diameter table 6 year old height, eliptical
One 40" by 20" table 3 year old height
One 40" by 20" table 4 year old height
One 40" by 20" table five year old height
Five 20" by 20" tables 3 year old height
Five 20" by 20" tables 4 year old height
Five 20" by 30" tables 5 year old height
Eight 20" by 30" tables 6 year old height

Trapezoidal tables may be used in place of some of the rectangular ones, if desired. Two can be fitted together to make a larger hexagonal table.

The heights of the chairs should fit the heights of the tables. The chairs should have long backs to support the child's back. The legs of both tables and chairs should not be rubber or plastic capped.

Size of the classroom

"Ideally a Montessori classroom should be part of a building specially constructed to form a "Children's House." ...It is true that a system of education which gives so much freedom of movement, and requires at the same time so much cupboard space, demands ideally more room per child than the old system. But lack of space need not be an obstacle as one might be inclined to think."

See Maria Montessori: Her Life and Work by E.M. Standing p. 277

Beginning a Montessori class

The Montessori class should begin with from 12 to 15 children, of 2½ to 4, or 3 to 4½. The length of the session for them should gradually extend from about two hours to begin with to an eventual uninterrupted period of around three hours.

The class should be built up gradually, over a two-year period, with a group of 25 children at the end of the first year, adding in only the youngest children, that is 2½'s or 3's; and 35 at the end of the second year. This class of 35 children should be run by one teacher.

See Plan Which Will Best Produce a Montessori Class
Margaret E. Stephenson,

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